

From: [Goldmann, Elizabeth](#)
To: [Blaine, Marjorie E SPL](#)
Subject: AZ water rights
Date: Thursday, February 13, 2014 12:53:00 PM
Attachments: [Sonoita Creek Ranch - FIRST PATAGONIA CAPITAL Water Rights Holdings in T....pdf](#)
[PATAGONIA PROPERTY - Request for Assignments of Statement of Claim of Ri....pdf](#)
[AZwaterrights.techmemo.PDF](#) **AZwaterrights.techmemo.PDF is withheld - b5 deliberative**

Hi Marjorie

Here is the technical memo on Arizona Water Rights. (b)(5) Deliberative. Please call me if you have any questions. (b)(5) Deliberative

[REDACTED]

[REDACTED]

Thanks, Elizabeth

Surface Water (for given location)

NAME: FIRST PATAGONIA CAPITAL

App. No.	File Status	Permit No.	Certificate No.	File Date	Priority Date	County	Water Source	WaterShed
33-26064.1	ACTIVE - FULL	26064.0	26064.0	10/30/1973	10/30/1973	SANTA CRUZ	COTTONWOOD SPRING	SANTA CRUZ RIVER
Land Owner	Location			POD/POU		Water Uses		Quantity
PRIVATE	SE NE 33 20S 16E			Point of Diversion		IRRIGATION		250.00 AFA
	SW NE 4 21S 16E			Place of Use		STOCK		657,000.00 GPA
	SE NE 4 21S 16E			Place of Use				
	SE 4 21S 16E			Place of Use				
	SW 4 21S 16E			Place of Use				
	NE SW NE 33 20S 16			Place of Use				
	NE SW NE 4 21S 16E			Place of Use				
App. No.	File Status	Permit No.	Certificate No.	File Date	Priority Date	County	Water Source	WaterShed
33-26494.1	ACTIVE - FULL	26494.0	26494.0	12/14/1973	12/14/1973	SANTA CRUZ	ALAMO SPRING	SANTA CRUZ RIVER
Land Owner	Location			POD/POU		Water Uses		Quantity
PRIVATE	NE SE 1 21S 16E			Place of Use		DOMESTIC		91,250.00 GPA
						STOCK		182,500.00 GPA
App. No.	File Status	Permit No.	Certificate No.	File Date	Priority Date	County	Water Source	WaterShed
33-26495.1	ACTIVE - FULL	26495.0	26495.0	12/14/1973	12/14/1973	SANTA CRUZ	CORRAL CANYON SPRING	SANTA CRUZ RIVER
Land Owner	Location			POD/POU		Water Uses		Quantity
PRIVATE	SW SE 22 21S 16E			Place of Use		DOMESTIC		657,000.00 GPA
						STOCK		438,000.00 GPA
App. No.	File Status	Permit No.	Certificate No.	File Date	Priority Date	County	Water Source	WaterShed
36-42194.1	ACTIVE - FULL			7/30/1987	1/1/1976	PIMA	CORRAL CANYON SPRING	SANTA CRUZ RIVER
Land Owner	Location			POD/POU		Water Uses		Quantity
PRIVATE	SW SE 22 21S 16E			Point of Diversion		STOCK		6.30 AFA
App. No.	File Status	Permit No.	Certificate No.	File Date	Priority Date	County	Water Source	WaterShed
36-59462.0	ACTIVE - ACTIVE			1/30/1978	5/31/1919		COTTONWOOD SPRING	LOWER GILA RIVER
Land Owner	Location			POD/POU		Water Uses		Quantity
PRIVATE	SW NE 4 21S 16E			Point of Diversion		ANNUAL USE		103.00 AFA
						IRRIGATION		
						STOCK		
App. No.	File Status	Permit No.	Certificate No.	File Date	Priority Date	County	Water Source	WaterShed
36-59463.0	ACTIVE - ACTIVE			1/30/1978	5/31/1919	SANTA CRUZ	COTTONWOOD SPRING	SANTA CRUZ RIVER
Land Owner	Location			POD/POU		Water Uses		Quantity
PRIVATE	SE NE 33 20S 16E			Point of Diversion		ANNUAL USE		480.00 AFA
	SW NE 4 21S 16E			Place of Use		IRRIGATION		
						STOCK		
App. No.	File Status	Permit No.	Certificate No.	File Date	Priority Date	County	Water Source	WaterShed
36-59469.0	ACTIVE - ACTIVE			1/30/1978	5/31/1919	SANTA CRUZ	MONKEY SPRING	SANTA CRUZ RIVER
Land Owner	Location			POD/POU		Water Uses		Quantity
PRIVATE	NE NE 9 21S 16E			Point of Diversion		STOCK		2.80 AFA
App. No.	File Status	Permit No.	Certificate No.	File Date	Priority Date	County	Water Source	WaterShed
36-59470.0	ACTIVE - ACTIVE			1/30/1978	5/31/1919	SANTA CRUZ	MONKEY SPRING	SANTA CRUZ RIVER
Land Owner	Location			POD/POU		Water Uses		Quantity
PRIVATE	NW SW 3 21S 16E			Point of Diversion		ANNUAL USE		1,000.00 AFA
						IRRIGATION		
						STOCK		

Surface Water (for given location)

NAME: FIRST PATAGONIA CAPITAL

App. No.	File Status	Permit No.	Certificate No.	File Date	Priority Date	County	Water Source	WaterShed
38-26063.1	ACTIVE - FULL	26063.0	26063.0	10/30/1973	10/30/1973	SANTA CRUZ	MONKEY SPRING	SANTA CRUZ RIVER
Land Owner			Location		POD/POU		Water Uses	Quantity
PRIVATE			SE NW SW 3 20S 16I		Point of Diversion		IRRIGATION	785.00 AFA
			W2 W2 21 21S 16E		Place of Use		STOCK	657,000.00 GPA
			E2 NE 27 21S 16E		Place of Use			
			NW NW NW 28 21S 1		Place of Use			
			SW NE 9 21S 16E		Place of Use			
			NE NW 16 21S 16E		Place of Use			
			SW SE 16 21S 16E		Place of Use			
			NE NE 9 21S 16E		Place of Use			
			E2 NW 16 21S 16E		Place of Use			
App. No.	File Status	Permit No.	Certificate No.	File Date	Priority Date	County	Water Source	WaterShed
38-59444.0	ACTIVE - ACTIVE		59444.0	1/27/1978	5/1/1952	SANTA CRUZ	NO NAME WATERSHED CANYON	SANTA CRUZ RIVER
Land Owner			Location		POD/POU		Water Uses	Quantity
PRIVATE			NE NE 33 21S 16E		Point of Diversion		ANNUAL USE	2.80 AFA
			NE NE 33 21S 16E		Place of Use		STOCK	
App. No.	File Status	Permit No.	Certificate No.	File Date	Priority Date	County	Water Source	WaterShed
38-59445.0	ACTIVE - ACTIVE		59445.0	1/27/1978	5/1/1951	SANTA CRUZ	NO NAME CANYON	SANTA CRUZ RIVER
Land Owner			Location		POD/POU		Water Uses	Quantity
PRIVATE			NW SW 28 21S 16E		Place of Use		STOCK	2.80 AFA

NAME: FIRST PATAGONIA CAPITAL CO LLC

App. No.	File Status	Permit No.	Certificate No.	File Date	Priority Date	County	Water Source	WaterShed
33-26063.2	ACTIVE - PARTIAL	26063.1	26063.0	10/30/1973	10/30/1973	SANTA CRUZ	MONKEY SPRING	SANTA CRUZ RIVER
Land Owner	Location			POD/POU		Water Uses		Quantity
PRIVATE	SW SW 3 20S 16E			Point of Diversion		IRRIGATION		196.00 AFA
	9 21S 16E			Place of Use		STOCK		657,250.00 GPA
	28 21S 16E			Place of Use				
	21 21S 16E			Place of Use				
	16 21S 16E			Place of Use				
	9 21S 16E			Place of Use				

NAME: PATAGONIA PROPERTY PARTNERSHIP II LLLP

App. No.	File Status	Permit No.	Certificate No.	File Date	Priority Date	County	Water Source	WaterShed
33-26063.3	ACTIVE - PARTIAL	26063.1	26063.2	10/30/1973	10/30/1973	SANTA CRUZ	MONKEY SPRING	SANTA CRUZ RIVER
Land Owner	Location			POD/POU		Water Uses		Quantity
PRIVATE	SW SW 3 20S 16E			Point of Diversion		IRRIGATION		589.00 AFA
	28 21S 16E			Place of Use		STOCK		492,750.00 GPA
	21 21S 16E			Place of Use				
	16 21S 16E			Place of Use				
	9 21S 16E			Place of Use				

Surface Water (for given location)

NAME: PATAGONIA PROPERTY PARTNERSHIP LLLP

App. No.	File Status	Permit No.	Certificate No.	File Date	Priority Date	County	Water Source	WaterShed
36-59465.1	ACTIVE - FULL			1/30/1978	5/31/1919	SANTA CRUZ	MONKEY SPRING	SANTA CRUZ RIVER
Land Owner	Location			POD/POU		Water Uses		Quantity
PRIVATE	NW SW 21 21S 16E			Point of Diversion		STOCK		
App. No.	File Status	Permit No.	Certificate No.	File Date	Priority Date	County	Water Source	WaterShed
36-59466.1	ACTIVE - FULL			1/30/1978	5/31/1919	SANTA CRUZ	MONKEY SPRING	SANTA CRUZ RIVER
Land Owner	Location			POD/POU		Water Uses		Quantity
PRIVATE	SE NW 21 21S 16E			Point of Diversion		STOCK		2.80 AFA
App. No.	File Status	Permit No.	Certificate No.	File Date	Priority Date	County	Water Source	WaterShed
36-59467.1	ACTIVE - FULL			1/30/1978	5/31/1919	SANTA CRUZ	MONKEY SPRING	SANTA CRUZ RIVER
Land Owner	Location			POD/POU		Water Uses		Quantity
PRIVATE	E2 SW 16 21S 16E			Place of Use		ANNUAL USE		183.00 AFA
						IRRIGATION		
						STOCK		
App. No.	File Status	Permit No.	Certificate No.	File Date	Priority Date	County	Water Source	WaterShed
36-59468.1	ACTIVE - FULL			1/30/1978	5/31/1919	SANTA CRUZ	MONKEY SPRING	SANTA CRUZ RIVER
Land Owner	Location			POD/POU		Water Uses		Quantity
PRIVATE	W2 NE 16 21S 16E			Place of Use		ANNUAL USE		163.00 AFA
	E2 NW 16 21S 16E			Place of Use		IRRIGATION		
						STOCK		



JANICE K. BREWER
Governor

SANDRA A. FABRITZ-WHITNEY
Director

ARIZONA DEPARTMENT OF WATER RESOURCES

3550 North Central Avenue, Second Floor
PHOENIX, ARIZONA 85012-2105
Telephone (602) 771-8621
Fax (602) 771-8689

November 8, 2011

Patagonia Property Partnership II, L.L.P.
PO Box 66
Tucson, Arizona 85702

RE: Request for Assignments of Statement of Claim of Right Nos. 36-59465, 36-59466, 36-59467 and 36-59468.

From: First Patagonia Capital Company, L.L.C.
To: Patagonia Property Partnership II, L.L.P.

Applicant:

The above-referenced Request for Assignments have been completed as required by Arizona Revised Statutes §§ 45-163 and 45-164. The official records of the Arizona Department of Water Resources (Department) have been revised to indicate the name and address of the current holder of the above-referenced surface water filings. The Department has not determined the validity of the claims for a water right.

Check Nos. 17318, 17319, 17320 and 17321 each for \$75.00 were submitted by Munger Chadwick, PLC and have been deposited.

Please do not hesitate to contact me at (602) 771-8618 or toll free (within Arizona only) at 1-800-352-8488 if you require further information or assistance.

Sincerely,

A handwritten signature in cursive script that reads "Barbara L. Norton".

Barbara L. Norton
Surface Water Rights Specialist
Permitting Unit



Printed on recycled paper. Each ton of recycled paper saves 7,000 gallons of water.

Arizona Department of Water Resources
Permitting Unit
3550 North Central Avenue, Phoenix, Arizona 85012-2105
Telephone (602) 771-8621
Fax (602) 771-8689

REQUEST FOR
ASSIGNMENT OF SURFACE WATER APPLICATIONS AND CLAIMS AND
ASSIGNMENT AND REISSUANCE OF PERMITS AND CERTIFICATED RIGHTS

1. Registry number of right or claim being assigned See attachment
(Use attachment for 2 or more filings)
2. Request for: (check one box only)
☒ Total (complete) Assignment ☐ Partial Assignment
3. If the request is for a partial assignment, the following information must be provided for use(s), quantity(s), and location(s) of the portion being assigned:
- Use _____ Quantity _____
____ 1/4 ____ 1/4 ____ 1/4, Section __, Township __ N/S, Range __ EW; Parcel I.D. No. _____
- Use _____ Quantity _____
____ 1/4 ____ 1/4 ____ 1/4, Section __, Township __ N/S, Range __ EW; Parcel I.D. No. _____

4. SELLER(S)/ASSIGNORS

Name FIRST PATAGONIA CAPITAL CO., L.L.C.
Address P.O. Box 737
PATAGONIA, AZ 85624-0737
Phone No. (520) 394-0082

Seller not available

Signature

(Please print or type name of assignor or representative)

Date Signed

BUYER(S)/ASSIGNEES

Name PATAGONIA PROPERTY PARTNERSHIP II, L.L.P.
Address ~~P.O. Box 66~~ Box 232
Tucson, AZ 85702 en route AZ 85637
Phone No. (520) 444-2286 520-3260-0030

[Signature]

Signature

Dorothy Hubbell
(Please print or type name of assignee or representative)

9-21-11

Date Signed

Current mailing addresses and telephone numbers must be included.

ASSIGNMENTS WILL NOT BE PROCESSED WITHOUT FEE(S), PROOF OF OWNERSHIP (MAY INCLUDE CHAIN OF TITLE OF OWNERSHIP), ASSESSORS MAP OR ALLOTMENT MAP

(Page 1 of 4)

REQUEST FOR ASSIGNMENT ATTACHMENT

Registry number of right or claim 36-59465.0000

☒ Entire right or claim ☐ Partial

Use STOCK WATER Quantity 1/4 1/4 NW 1/4 SW, Section 21, Township 21 N/S, Range 16 E/W; Parcel I.D. No. _____

Use _____ Quantity 1/4 1/4 1/4, Section _____, Township _____ N/S, Range _____ E/W; Parcel I.D. No. _____

Use _____ Quantity 1/4 1/4 1/4, Section _____, Township _____ N/S, Range _____ E/W; Parcel I.D. No. _____

Registry number of right or claim 36-59466.0000

☒ Entire right or claim ☐ Partial

Use STOCK WATER Quantity 2.8 acre-feet 1/4 SE 1/4 NW, Section 21, Township 21 N/S, Range 16 E/W; Parcel I.D. No. _____

Use _____ Quantity 1/4 1/4 1/4, Section _____, Township _____ N/S, Range _____ E/W; Parcel I.D. No. _____

Use _____ Quantity 1/4 1/4 1/4, Section _____, Township _____ N/S, Range _____ E/W; Parcel I.D. No. _____

Registry number of right or claim 36-59467.0000

☐ Entire right or claim ☐ Partial

Use IRRIGATION Quantity 183 acre-feet 1/4 E 1/2 1/4 SW, Section 16, Township 21 N/S, Range 16 E/W; Parcel I.D. No. _____

Use STOCK WATER Quantity 1/4 1/4 E 1/2 1/4 SW, Section 16, Township 21 N/S, Range 16 E/W; Parcel I.D. No. _____

Use _____ Quantity 1/4 1/4 1/4, Section _____, Township _____ N/S, Range _____ E/W; Parcel I.D. No. _____

(Page 3 of 4)

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Revised 6/2011

REQUEST FOR ASSIGNMENT ATTACHMENT

Registry number of right or claim 36-59468.0000

☒ Entire right or claim ☐ Partial

Use IRRIGATION Quantity 163 acres - fee W 1/2 NE 1/4 E 1/2 NW 1/4 Section 16, Township 31 N(S) Range 16 E(W); Parcel I.D. No. _____

Use SURFACE WATER Quantity W 1/2 NE 1/4 E 1/2 NW 1/4 Section 16, Township 31 N(S) Range 16 E(W); Parcel I.D. No. _____

Use _____ Quantity _____ 1/4 _____ 1/4 _____ 1/4 _____, Section _____, Township _____ N/S, Range _____ E/W; Parcel I.D. No. _____

Registry number of right or claim _____

☐ Entire right or claim ☐ Partial

Use _____ Quantity _____ 1/4 _____ 1/4 _____ 1/4 _____, Section _____, Township _____ N/S, Range _____ E/W; Parcel I.D. No. _____

Use _____ Quantity _____ 1/4 _____ 1/4 _____ 1/4 _____, Section _____, Township _____ N/S, Range _____ E/W; Parcel I.D. No. _____

Use _____ Quantity _____ 1/4 _____ 1/4 _____ 1/4 _____, Section _____, Township _____ N/S, Range _____ E/W; Parcel I.D. No. _____

Registry number of right or claim _____

☐ Entire right or claim ☐ Partial

Use _____ Quantity _____ 1/4 _____ 1/4 _____ 1/4 _____, Section _____, Township _____ N/S, Range _____ E/W; Parcel I.D. No. _____

Use _____ Quantity _____ 1/4 _____ 1/4 _____ 1/4 _____, Section _____, Township _____ N/S, Range _____ E/W; Parcel I.D. No. _____

Use _____ Quantity _____ 1/4 _____ 1/4 _____ 1/4 _____, Section _____, Township _____ N/S, Range _____ E/W; Parcel I.D. No. _____

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2005-13883

Page 1 of 6

Requested By: LAND AMERICA

Suzanne Sainz

Santa Cruz County Recorder

10-17-2005 04:20 PM Recording Fee \$17.00



0513883

1
WHEN RECORDED, RETURN TO:
Gallagher & Kennedy, P.A.
2575 E. Camelback Rd.
Phoenix, Arizona 85016
Attention: James B. Connor, Esq.

1490987 A10

SPECIAL WARRANTY DEED

For the consideration of Ten Dollars and other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the undersigned FIRST PATAGONIA CAPITAL COMPANY L.L.C., an Arizona limited liability company (the "Grantor"), does hereby grant and convey to PATAGONIA PROPERTY PARTNERSHIP II, L.L.L.P., an Arizona limited liability limited partnership (the "Grantee"), that certain real property situated in Santa Cruz County, Arizona legally described as set forth on Exhibit A hereto (the "Property"), together with all rights and privileges appurtenant thereto and any improvements thereon, and together with all rights, title, and interest in and to groundwater, surface water, wells and well rights, and water claims appurtenant to the above-described Property, including seventy-five percent (75.0%) of the water rights (i.e. 589 acre feet of water per annum) pursuant to the Arizona Department of Water Resources Certificate of Water Right No. 33-26063.0000.

The above-described Property is conveyed subject to all current taxes and other assessments, reservations in patents and all easements, rights of way, encumbrances, liens, covenants, conditions, restrictions, obligations and liabilities as may appear of record.

The Grantor hereby binds itself and its successors to warrant and defend the title as against all acts of the Grantor herein and no other, subject to the matters above set forth.

17th IN WITNESS WHEREOF, the Grantor has caused this instrument to be executed this 17 day of October, 2005.

FIRST PATAGONIA CAPITAL COMPANY,
L.L.C., an Arizona limited liability company

By: 

Ferdinand Graf Von Galen

Its: Manager

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STATE OF ARIZONA)
) ss.
County of Pima)

The foregoing instrument was acknowledged before me this 17th day of October, 2005, by Ferdinand Graf Von Galen, the Manager of First Patagonia Capital Company L.L.C., an Arizona limited liability company, on behalf of the company.



Notary Public State of Arizona
Pima County
Fred S. Baker
Expires April 21, 2008



Notary Public

My Commission Expires:

April 21, 2008

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EXHIBIT A
LEGAL DESCRIPTION

[SEE ATTACHED]

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Exhibit A

A land description of a Portion of Sections 9, 16, 20, 21, 28, 29, 32 and 33, and Portion of Lot 1, 2, 3 & 17 of Ranchettes at Rail X Ranch Unit 1, Township 21 South Range 16 East, Gila and Salt River Meridian, Santa Cruz County, Arizona.

Commencing at the East one Quarter Corner of Section 28 Township 21 South Range 16 East, G. & S.R.M., also being the point of beginning. Being a General Land office Brass cap, thence following courses to found monuments:

South 41 degrees 02 minutes 06 seconds West a distance of 696.24 feet
 South 31 degrees 35 minutes 38 seconds West a distance of 498.27 feet
 South 44 degrees 56 minutes 35 seconds West a distance of 278.29 feet
 South 56 degrees 03 minutes 49 seconds West a distance of 500.32 feet
 North 83 degrees 39 minutes 08 seconds West a distance of 306.40 feet
 North 80 degrees 22 minutes 18 seconds West a distance of 656.43 feet
 South 51 degrees 03 minutes 23 seconds West a distance of 818.28 feet
 South 70 degrees 42 minutes 39 seconds West a distance of 1280.76 feet
 South 61 degrees 50 minutes 05 seconds West a distance of 922.79 feet
 South 21 degrees 49 minutes 20 seconds West a distance of 880.88 feet
 South 73 degrees 04 minutes 20 seconds West a distance of 1217.34 feet
 South 18 degrees 06 minutes 21 seconds West a distance of 2929.14 feet
 North 71 degrees 43 minutes 24 seconds West a distance of 517.24 feet
 North 18 degrees 16 minutes 50 seconds East a distance of 1809.34 feet to a point of curvature to the left, having the following parameter, a central angle of 8 degrees 27 minutes 25 seconds a radius of 11509.16 feet, an arc distance of 1698.77 feet, a chord distance of 1697.23 feet and a chord bearing of North 14 degrees 03 minutes 08 seconds East to a point of tangent.

Thence North 9 degrees 49 minutes 25 seconds East a distance of 441.04 feet
 Thence South 89 degrees 47 minutes 25 seconds East a distance of 88.65 feet
 Thence North 12 degrees 05 minutes 42 seconds East a distance of 7796.54 feet
 Thence South 72 degrees 16 minutes 43 seconds East a distance of 50.24 feet
 Thence North 12 degrees 05 minutes 42 seconds East a distance of 1787.78 feet
 Thence South 68 degrees 35 minutes 46 seconds West a distance of 0.48 feet to a point of curvature to the left, having the following parameters, a central angle of 13 degrees 19 minutes 20 seconds, a radius of 7789.44 feet, an arc distance of 1811.17 feet and a chord bearing of North 11 degrees 13 minutes 50 seconds East to a point of tangent.

Thence North 4 degrees 34 minutes 10 seconds East a distance of 234.83 feet to a point of curvature to the right having the following parameters, a central angle of 6 degrees 17 minutes 00 seconds, a radius of 7489.44 feet, an arc distance of 821.33 feet and a chord bearing of North 7 degrees 42 minutes 40 seconds East to a point of tangent.

Thence North 10 degrees 51 minutes 10 seconds East a distance of 276.68 feet
 Thence North 6 degrees 54 minutes 07 seconds East a distance of 178.75 feet
 Thence North 11 degrees 36 minutes 30 seconds East a distance of 655.32 feet to a point of curvature to the left having the following parameters, a central angle of 6 degrees 00

minutes 18 seconds, a radius of 11510.00 feet, an arc distance of 1206.32 feet, and a chord bearing of North 8 degrees 40 minutes 28 seconds East to a point on a curve to the left, having the following, a central angle of 5 degrees 24 minutes 24 seconds a radius of 11559.16 feet an arc distance of 1090.78 feet and a chord bearing of North 7 degrees 32 minutes 42 seconds East, a chord distance of 1090.38 feet to a point of tangent.

Thence North 04 degrees 50 minutes 30 seconds East a distance of 455.52 feet to a point of curvature to the right having the following parameters, a central angle of 15 degrees 20 minutes 29 seconds, a radius of 6094.14 feet, an arc distance of 1631.75 feet and a chord bearing of North 12 degrees 30 minutes 29 seconds East, a chord distance of 1626.88 feet to a point on a curve, thence North 69 degrees 49 minutes 16 seconds West, a distance of 20.00 feet to a point on a curve to the right, having the following parameters, a central angle of 2 degrees 36 minutes 54 seconds, a radius of 6114.14 feet, an arc distance of 279.04 and a chord bearing of North 21 degrees 29 minutes 11 seconds East a chord distance of 279.02 feet. Thence leaving said point on said curve the following courses;

South 67 degrees 11 minutes 41 seconds East a distance of 88.97 feet
 South 67 degrees 10 minutes 06 seconds East a distance of 508.70 feet
 South 68 degrees 30 minutes 59 seconds East a distance of 806.68 feet
 South 37 degrees 56 minutes 10 seconds East a distance of 493.00 feet
 South 19 degrees 55 minutes 55 seconds East a distance of 275.00 feet
 South 19 degrees 56 minutes 32 seconds East a distance of 1326.85 feet
 South 38 degrees 33 minutes 48 seconds East a distance of 119.77 feet
 North 67 degrees 32 minutes 48 seconds East a distance of 998.23 feet
 South 0 degrees 04 minutes 15 seconds West a distance of 2608.14 feet to a found GLO brass cap stamped ¼ Sec. 15-16.
 South 0 degrees 15 minutes 08 seconds East a distance of 2610.57 feet to a found GLO brass cap stamped Secs. 15, 16, 21 and 22.
 South 0 degrees 00 minutes 47 seconds West a distance of 2621.12 feet to found GLO brass cap stamped ¼ Sec. 21-22
 South 0 degrees 11 minutes 52 seconds East a distance of 2585.93 feet to a found GLO brass cap stamped Secs. 21-22-27-28.
 South 0 degrees 20 minutes 18 seconds West a distance of 2638.18 feet to a point found GLO brass cap stamped ¼ Secs. 27-28 and point of beginning.

Excepting therefrom the following parcels

Parcels 16, 17, 18, 19, and 20 of the Record of Survey of Sonoita Creek Ranch Estates as recorded in Book 2, at Page 484 in the records of Santa Cruz County Recorder of Santa Cruz County, Arizona, being a part of Sections 28, 32, 33, Township 21 South, Range 16 East, Gila and Salt River Base and Meridian, Santa Cruz County, Arizona.

A land Description of a parcel of land located in Section 32, Township 21 South, Range 16 East, Gila and Salt River Meridian, Santa Cruz County, Arizona. Reference record of survey Book 2 at Page 284 and being the following parcel;

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Beginning at the Southwest Corner of Parcel 19, Sonoita Creek Ranch, Book 2 Page 484

Thence South 75 degrees 04 minutes 26 seconds East a distance of 560.45 feet, coincident with the South line of Parcel 19

Thence South 18 degrees 06 minutes 11 seconds West a distance of 2,929.31 feet, coincident with the Westerly line of lots 6 and 7, Rail X Ranch Estates, Book 2 Page 161, Record of Surveys and also a point on the Northerly line of common area "A"

Thence North 71 degrees 43 minutes 01 seconds West a distance of 517.50 feet, coincident with the Northerly line of Common Area "A" to a point in the Easterly Right-of-Way of State Highway 82

Thence North 18 degrees 15 minutes 50 seconds East a distance of 1,808.56 feet coincident with the Easterly Right-of-Way to a point of curvature to the left having the following parameter, a central angle of 5 degrees 25 minutes 26 seconds, a radius of 11509.16 and a arc length of 1089.50 feet

Thence continuing along said Right-of-Way an arc distance of 1,089.50 feet to the Point of Beginning.

TOGETHER WITH ALL right, title and interest in and to groundwater, surface water, wells and well rights, and water claims appurtenant to all the real property described above, including all of the property excepted above, including seventy-five percent (75%) of the water rights (i.e. 589 acre feet of water per annum) pursuant to the Arizona Department of Water Resources Certificate of Water Right No. 33-26063.0000.

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EXHIBIT B

WATER RIGHTS

a)	A portion of Certificate of Water Right No.:	33-26063.0000 ✓
b)	Statement of Claim Nos.	36-59465 ✓ 36-59466 ✓ 36-59467 ✓ 36-59468 ✓
c)	Claim of Water Right for Stock Pond:	38-59445
d)	Statement of Claimant No.:	39-73979 39-73999
e)	Well Registration No.:	55-624883 55-624891

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ASSIGNMENT OF WATER RIGHTS

This Assignment of Water Rights ("Assignment") is made October 17, 2005 by and between First Patagonia Capital Company L.L.C., an Arizona limited liability company ("Patagonia Capital"), and Patagonia Property Partnership II, L.L.L.P., an Arizona limited liability limited partnership ("Patagonia Partners").

BACKGROUND

A. Pursuant to the *Receipt for Deposit and Real Estate Contract*, dated June 7, 2005, as amended by that certain *Addendum #1* dated June 17, 2005 and the *First Amendment To Receipt For Deposit And Real Estate Contract*, dated September 22, 2005, (collectively, the "Real Estate Contract"), Patagonia Capital sold to Patagonia Partners the real property described in Exhibit "A" attached hereto (the "Real Property").

B. Patagonia Capital is the holder of certain interests in groundwater, surface water, wells and well rights, arid water claims appurtenant to the Real Property being conveyed (collectively, the "Water Rights") and, as part of the sale hereby assigns to Patagonia Partners all Patagonia Capital's rights, title, and interest to the Water Rights including without limitation the rights listed on Exhibit B attached hereto, except as specifically excluded herein.

C. The Water Rights being assigned by Patagonia Capital to Patagonia Partners include 75% of the water rights (i.e. 589 acre feet of water per annum) pursuant to Arizona Department of Water Resources Certificate of Water Right No. 33-26063.0000 (the "Certificate") related to a naturally flowing artesian spring commonly known as Monkey Springs.

D. The parties acknowledge that Patagonia Capital's interest in the Water Rights is subject to certain legal proceedings, including but not limited to that legal proceeding to determine the scope, extent and validity of the rights to use the waters of the Gila River watershed) captioned *In re General Adjudication of All Rights to Use Water in the Gila River System and Source*, Maricopa County Cause No. W-1, W-2, W-3 and W-4 (consolidated), together with various proceedings before a special master and interlocutory appeals pending before the Arizona Supreme Court. The parties also acknowledge that the rights of various parties to claim or use the waters of the Santa Cruz River watershed and tributaries thereto (which may or may not include groundwater and subsurface water) are subject to pending settlement discussions which may alter, limit, restrict, or otherwise define the scope, extent and validity of the Water Rights.

THE REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK

Patagonia Capital



Patagonia Partners



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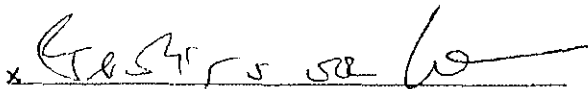
OCT 17 2005

Page 1 of 2
Surface Water Division

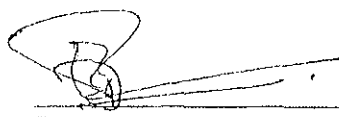
Therefore, the parties agree as follows:

1. Patagonia Capital hereby assigns to Patagonia Partners all its right, title, and interest to the Water Rights appurtenant to the Real Property, including seventy-five percent (75.0%) of the water per annum (i.e., 589 acre feet of water per annum) pursuant to the Certificate. The remaining portion of the water pursuant to the Certificate (i.e., 196 acre feet of water per annum) that is appropriable for irrigation or other purposes, shall be retained by Patagonia Capital.
2. **Exhibits & Schedules.** All Exhibits to this Assignment constitute integral parts of this Assignment.
3. **Execution of Additional Documents.** Patagonia Capital agrees to execute and provide such other and further documents or instruments as may be required to comply with any laws, rules or regulations necessary to carry out the intent of this Assignment and to finalize and complete the assignment of the Water Rights to Patagonia Partners, including, without limitation, any documents or instruments as may be required by the Arizona Department of Water Resources necessary to effect the full and complete assignment of the Water Rights.
4. **No Conditions Precedent.** There are no conditions precedent to the effectiveness or enforceability of this Assignment, except those which may be specifically stated in this Assignment.
5. **Entire Agreement; Modifications and Amendments.** This Assignment constitutes the entire agreement between the parties regarding the subject matter hereof and supersedes any prior understanding or agreements, oral or written, with respect thereto. This Assignment may not be modified or amended except by the written consent of all parties.

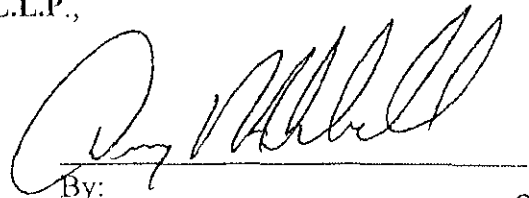
FIRST PATAGONIA CAPITAL COMPANY, L.L.C.,
an Arizona limited liability company


By: Ferdinand Graf Von Galen, Its: Manager

PATAGONIA PROPERTY PARTNERSHIP II, L.L.L.P.,
an Arizona limited liability limited partnership


By: _____

Its: DPAR INC, GENERAL PARTNER


By: _____

Its: DHub INC, General Partner

C:\Parsons\Assignment of Water Rights.doc

RECEIVED

Patagonia Capital  Patagonia Partners 

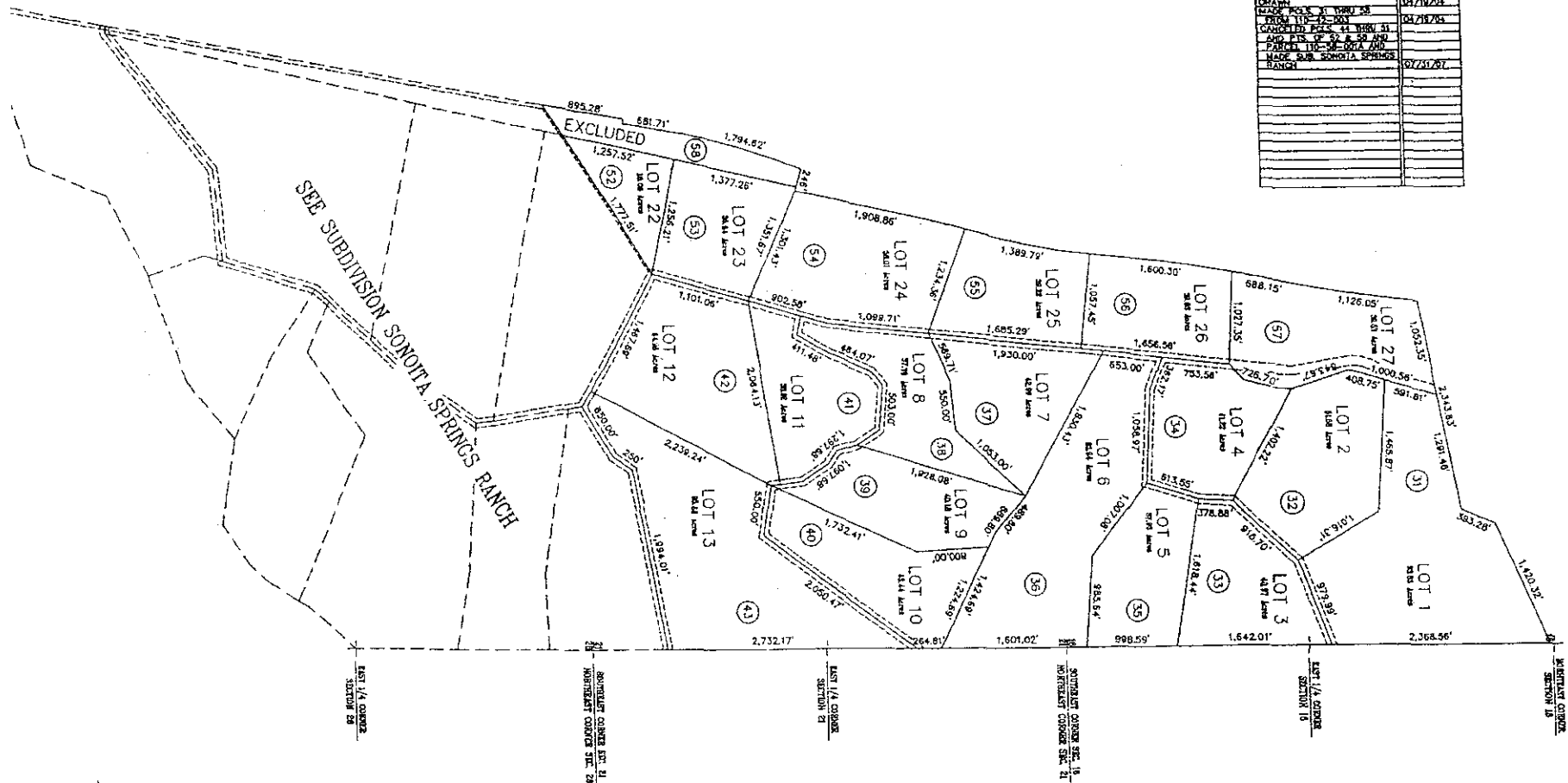
OCT 17 2011

Page 2 of 2
Surface Water Division

SEC.16,20,21,28,29,32 & 33
T21S R16E

BOOK 110 MAP 42 3/4

REVISIONS:	DATE:
CREATED	04/18/20
REVISION 1: 100% AS	04/18/20
REVISION 2: 100% AS	04/18/20
CANCELLED PAGE 44 100% AS	
AND ITS 100% AS AND	
PARTIAL 100% AS DATA AND	
MADE SUB SONOITA SPRINGS	07/15/21
RANCH	



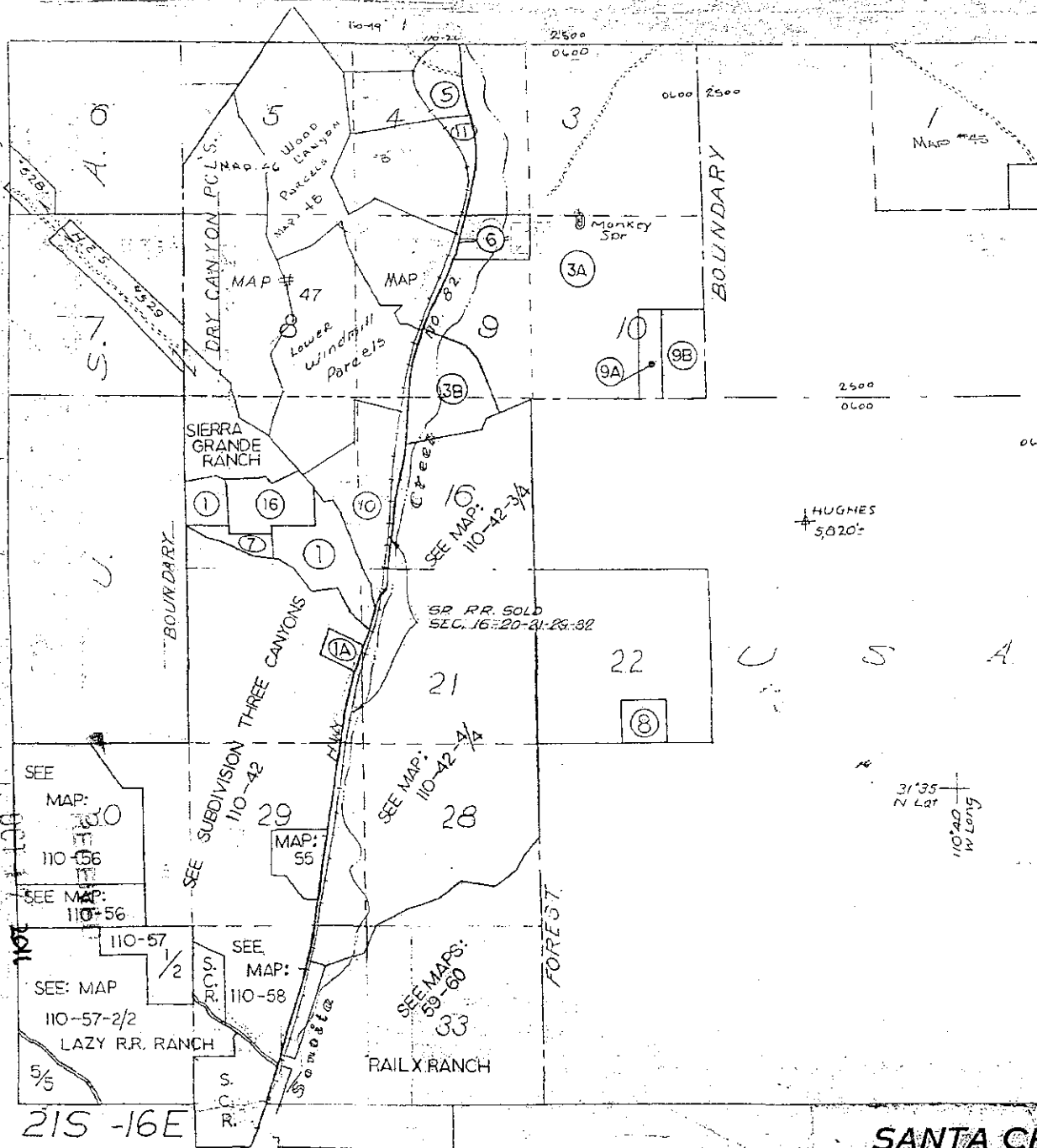
SONOITA CREEK RANCH (SONOITA)
LOTS 1 THROUGH 27

SANTA CRUZ COUNTY ASSESSOR'S MAP
Felipe A. Fuentes Jr.

NO 42-1/5

BOOK

MAF

[illegible]

SPLIT INTO 3A & 3B	11-08-0
SPLIT 15A INTO 17 & 8	5-27-0

SCALE 2" = 1 Mile

ROBERT R. HATHAWAY

SANTA CRUZ COUNTY ASSESSOR

JOHN F. MUNGER
MARK E. CHADWICK *
KATHLEEN D. WINGER
THOMAS A. DENKER
ADRIANE J. PARSONS **
JODI A. BAIN ***
ROBERT J. METLI
PETRA L. EMERSON
* Also Admitted in Colorado
** Also Admitted in Colorado, South Africa
*** Admitted only in New York

MEREDITH MUNGER (Non Lawyer)
PUBLIC RELATIONS CONSULTANT

MUNGER CHADWICK, P.L.C.

ATTORNEYS AT LAW
A PROFESSIONAL LIMITED LIABILITY COMPANY
NATIONAL BANK PLAZA
333 NORTH WILMOT, SUITE 300
TUCSON, ARIZONA 85711
(520) 721-1900
FAX (520) 747-1550
MungerChadwick.com

PHOENIX OFFICE
NORTHERN TRUST BANK TOWER
BILTMORE FINANCIAL CENTER II
2398 E. Camelback Road, Suite 240
Phoenix, Arizona 85016
(602) 358-7348
FAX (602) 441-2779

OF COUNSEL
LAWRENCE V. ROBERTSON, JR.
ADMITTED TO PRACTICE IN:
ARIZONA, COLORADO, MONTANA,
NEVADA, TEXAS, WYOMING,
DISTRICT OF COLUMBIA

OF COUNSEL
GREG PATTERSON

OF COUNSEL
TAPIA, ROBLES, CABRERA Y MORENO S.C.
HERMOSILLO, SONORA, MEXICO
(LICENSED SOLELY IN MEXICO)

TUBAC APPOINTMENT OFFICE
2247 East Frontage Road, #1
P.O. Box 1448
Tubac, Arizona 85646
(520) 398-0411

September 23, 2011

VIA CERTIFIED MAIL

Arizona Department of Water Resources
Surface Water Rights
500 North Third Street
Phoenix, AZ 85004-3903

RE: Requests for Assignment of Surface Water Applications and Claims and
Assignment and Reissuance of Permits and Certificated Rights ("Requests")

Dear Ms. Ramirez:

This law firm represents the Patagonia Property Partnership II, LLLP, a buyer in a real estate transaction in 2005 evidenced by the Special Warranty Deed included as part of the enclosed Requests. We write to ask that the enclosed Requests be registered with your agency and the transfer of water rights finalized.

During the real estate conveyance in 2005, both parties executed several documents evidencing the water rights transfer in addition to the real estate transfer. The water rights transfer was executed via an "Assignment of Water Rights," a copy of which is enclosed. The "Assignment of Water Rights" lists in its Exhibit B all water rights to be transferred along with the real estate conveyance.

Thank you very much for forwarding to me a copy of your letter dated September 13, 2006. We believe that the enclosed application satisfies your request for additional information and that the assignments of water rights may now be successfully completed.

To effectuate the water rights transfers, please find enclosed the following documents:

- 1) Request for Assignment of Surface Water Applications and Claims for 33-26063.0000 along with:
 - a. Fee of \$75.00 for Claim No. 33-26063.0000; **RECEIVED**
 - b. A copy of the Certificate of Water Right showing the seller as a holder of the water right dated August 27, 1992, and describing the right for both irrigation and stockwater; **SEP 27 2011**

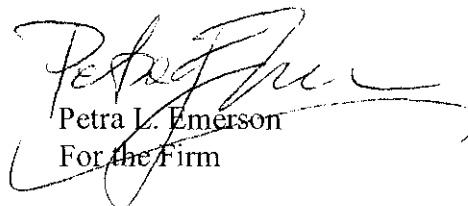
Surface Water Division

- c. A copy of the recorded Deed showing land ownership in the name of the buyer; and
 - d. A copy of assessors map with place of use identified.
- 2) Request for Assignment of Surface Water Applications and Claims for Nos. 36-59465.0000, 36-59466.0000, 36-59467.0000, 36-59468.0000 along with:
- a. Fee of \$75.00 for Claim No. 36-59465.0000;
 - b. Fee of \$75.00 for Claim No. 36-59466.0000;
 - c. Fee of \$75.00 for Claim No. 36-59467.0000;
 - d. Fee of \$75.00 for Claim No. 36-59468.0000;
 - e. A copy of the recorded Deed showing land ownership in the name of the buyer; and
 - f. A copy of assessors map with place of use identified.

If you have any questions, please call our office at 520-721-1900, or email me at "plemerson@mungerchadwick.com".

Sincerely,

MUNGER CHADWICK, P.L.C.



Petra L. Emerson
For the Firm

PLE:nsa
Enclosures

RECEIVED

OCT 17 2011

Surface Water Division

Arizona Department of Water Resources

3550 N Central Ave.

Phoenix AZ 85012

Customer:

MUNGER CHADWICK, PLC
333 N WILMOT SUITE 300
TUCSON, AZ 85711

Receipt #: 12-19482
Office: MAIN OFFICE
Receipt Date: 10/21/2011
Sale Type: IN_PERSON
Cashier: WRBLN

Item No.	Index	AOBJ	Description	Ref ID	Qty	Unit Price	Ext Price
67531	15239	4315-TT	Assignment of application, permit, certificate or statement of claim	36-59465.0	1	75.00	75.00
RECEIPT TOTAL:							75.00

Payment type: CHECK

Amount Paid: \$75.00

Payment Received Date: 10/21/2011

Notes: FROM TTA.

Check # 17318

ARIZONA DEPARTMENT OF WATER RESOURCES

Surface Water Rights
3550 North Central Avenue, Phoenix, Arizona 85012
Telephone (602) 771-8500
Fax (602) 771-8688



JANET NAPOLITANO
GOVERNOR

HERB GUENTHER
DIRECTOR

COPY

September 13, 2006

LandAmerica Lawyers Title
Attn: Alexa Ramirez
1780 N. Mastick Way, Suite F
Nogales, Arizona 85621

RE: Assignment (Conveyance) of Certificate of Water Right Nos. 4005 (Application No. 3R-1565) and 3821 (Application No. 4A-4052), Stockpond Application Nos. 38-59399 and 38-59400.

From: Harry L. Bell Trust
To: Patagonia Preserve LLC

RE: Assignments (Conveyance) of Certificate of Water Right No. 26063 (Application No. 33-26063), Statement of Claim Nos. 36-59465, 36-59466, 36-59467, and 36-59468, Stockpond Certificate No. 38-59445.

From: First Patagonia Capital Company
To: Patagonia Property Partnership II

Ms. Ramirez:

The Department is unable to process your applications for assignment because the permits/leases from the forest service and the lease agreements from state land and county assessor maps were not included.

In Arizona, rights to the beneficial use of public, or appropriable, water are attached to the land at the place of use. The Department must see evidence of a change in the ownership of land on which the particular water right filing is located. This document, which must include a recorded deed, lease or grazing permit, must show by map or describe by legal land notation the land involved in the transaction. Please submit copies of complete, approved permits/leases from state land and the forest service that reflect Patagonia Preserve, LLC or Patagonia Property Partnership II as the holders of lease at the places of use listed on the surface water rights filings.

Please provide a copy of the current county assessor map for each of the following referenced legal locations:

<u>Water Right No.</u>	<u>Legal Location</u>
CWR 4005	SW $\frac{1}{4}$ SW $\frac{1}{4}$, Sec. 36, Township 21 South, Range 15 East
CWR 3821	NW $\frac{1}{4}$ NW $\frac{1}{4}$, Sec. 36, Township 21 South, Range 15 East

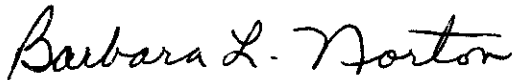
<u>Water Right No.</u>	<u>Legal Location</u>
38-59399	NE $\frac{1}{4}$ SW $\frac{1}{4}$, Sec. 32, Township 21 South, Range 16 East
38-59400	NW $\frac{1}{4}$ NW $\frac{1}{4}$, Sec. 1, Township 22 South, Range 15 East
CWR 26063	Sections 16 and 21, Township 21 South, Range 16 East
36-59465, 36-59466	Section 16, Township 21 South, Range 16 East
36-59467, 36-59468	Section 21, Township 21 South, Range 16 East

Check No. 00022658 for \$40.00, Check No. 00022624 for \$90.00, Check No. 00022659 for \$35.00 and Check No. 00022661 for \$20.00 have been deposited. Thank you for your payments. The cancelled checks are your receipts.

Enclosed for your convenience are our current Request for Assignment forms that reflect our new address and phone numbers. Please discard any out dated forms.

Please contact me at (602) 771-8500 if you have any questions regarding the assignment process.

Sincerely,



Barbara L. Norton
Surface Water Rights Specialist

bln

Arizona Department of Water Resources
Surface Water Rights
500 North Third Street, Phoenix, Arizona 85004-3903
(602) 417-2442
FAX (602) 417-2424

**REQUEST FOR
ASSIGNMENT OF SURFACE WATER APPLICATIONS AND CLAIMS AND
ASSIGNMENT AND REISSUANCE OF PERMITS AND CERTIFICATED RIGHTS**

1. Registry number of right or claim being assigned See attachment 36-59465
(Use attachment for 2 or more filings)

2. Request for: (check one box only)

☒ Total (complete) Assignment ☐ Partial Assignment

3. If the request is for a partial assignment, the following information must be provided for use(s), quantity(s), and location(s) of the portion being assigned:

Use _____ Quantity _____

Lot _____, 1/4 _____ 1/4 _____ 1/4 _____, Section _____, Township _____ N/S, Range _____ E/W
(if applicable)

Use _____ Quantity _____

Lot _____, 1/4 _____ 1/4 _____ 1/4 _____, Section _____, Township _____ N/S, Range _____ E/W
(if applicable)

Use _____ Quantity _____

Lot _____, 1/4 _____ 1/4 _____ 1/4 _____, Section _____, Township _____ N/S, Range _____ E/W
(if applicable)

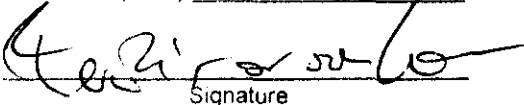
4. SELLER(S)/ASSIGNORS

Name First Patagonia Capital Co., L.L.C.

Address P.O. Box 737

Patagonia, AZ 85624-0737

Phone No. (520) 394-0082


Signature

Ferdinand Graf von Galen

(Please print or type name of assignor or representative)

OCT 17TH 05
Date Signed

BUYER(S)/ASSIGNEES

Name Patagonia Property Partnership II, LLLP

Address P.O. Box 66

Tucson, AZ 85702

Phone No. (520) 444-2286


Signature

DAVID PARSONS

(Please print or type name of assignee or representative)

OCT 17TH 2005
Date Signed

Current mailing addresses and telephone numbers must be included

ASSIGNMENTS WILL NOT BE PROCESSED WITHOUT FEE(S), PROOF OF OWNERSHIP (MAY INCLUDE CHAIN OF TITLE OF OWNERSHIP), ASSESSORS MAP OR ALLOTMENT MAP.

REQUEST FOR ASSIGNMENT ATTACHMENT

Registry number of right or claim 36-59465.0000 (B) ☒ Entire right or claim ☐ Partial

Use Stockwater Quantity _____ Lot _____, $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$, Section 21, Township 21 N S Range 16 E W
(if applicable)

Use _____ Quantity _____ Lot _____, $\frac{1}{4}$ _____ $\frac{1}{4}$ _____ $\frac{1}{4}$, Section _____, Township _____ N/S, Range _____ E/W
(if applicable)

Use _____ Quantity _____ Lot _____, $\frac{1}{4}$ _____ $\frac{1}{4}$ _____ $\frac{1}{4}$, Section _____, Township _____ N/S, Range _____ E/W
(if applicable)

Registry number of right or claim 36-59466.0000 (C) ☒ Entire right or claim ☐ Partial

Use Stockwater Quantity 2.8 acre-feet Lot _____, $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$, Section 21, Township 21 N S Range 16 E W
(if applicable)

Use _____ Quantity _____ Lot _____, $\frac{1}{4}$ _____ $\frac{1}{4}$ _____ $\frac{1}{4}$, Section _____, Township _____ N/S, Range _____ E/W
(if applicable)

Use _____ Quantity _____ Lot _____, $\frac{1}{4}$ _____ $\frac{1}{4}$ _____ $\frac{1}{4}$, Section _____, Township _____ N/S, Range _____ E/W
(if applicable)

Registry number of right or claim 36-59467.0000 (D) ☒ Entire right or claim ☐ Partial

Use Irrigation Quantity 183 acre-feet Lot _____, $\frac{1}{4}$ E $\frac{1}{4}$ SW $\frac{1}{4}$, Section 16, Township 21 N S Range 16 E W
(if applicable)

Use Stockwater Quantity _____ Lot _____, $\frac{1}{4}$ E $\frac{1}{4}$ SW $\frac{1}{4}$, Section 16, Township 21 N S Range 16 E W
(if applicable)

Use _____ Quantity _____ Lot _____, $\frac{1}{4}$ _____ $\frac{1}{4}$ _____ $\frac{1}{4}$, Section _____, Township _____ N/S, Range _____ E/W
(if applicable)

REQUEST FOR ASSIGNMENT ATTACHMENT

Registry number of right or claim 36-59468.0000 (E) ☐ Entire right or claim ☐ Partial

Use Irrigation Quantity 163 acre-feet W½, NE¼ & E½, NW¼, Section 16, Township 21 NS Range 16 EW

Use Stockwater Quantity _____ W½, NE¼ & E½, NW¼, Section 16, Township 21 NS Range 16 EW

Use _____ Quantity _____ Lot _____, ¼ ¼ ¼, Section _____, Township _____ N/S, Range _____ E/W
(if applicable)

Registry number of right or claim _____ ☐ Entire right or claim ☐ Partial

Use _____ Quantity _____ Lot _____, ¼ ¼ ¼, Section _____, Township _____ N/S, Range _____ E/W
(if applicable)

Use _____ Quantity _____ Lot _____, ¼ ¼ ¼, Section _____, Township _____ N/S, Range _____ E/W
(if applicable)

Use _____ Quantity _____ Lot _____, ¼ ¼ ¼, Section _____, Township _____ N/S, Range _____ E/W
(if applicable)

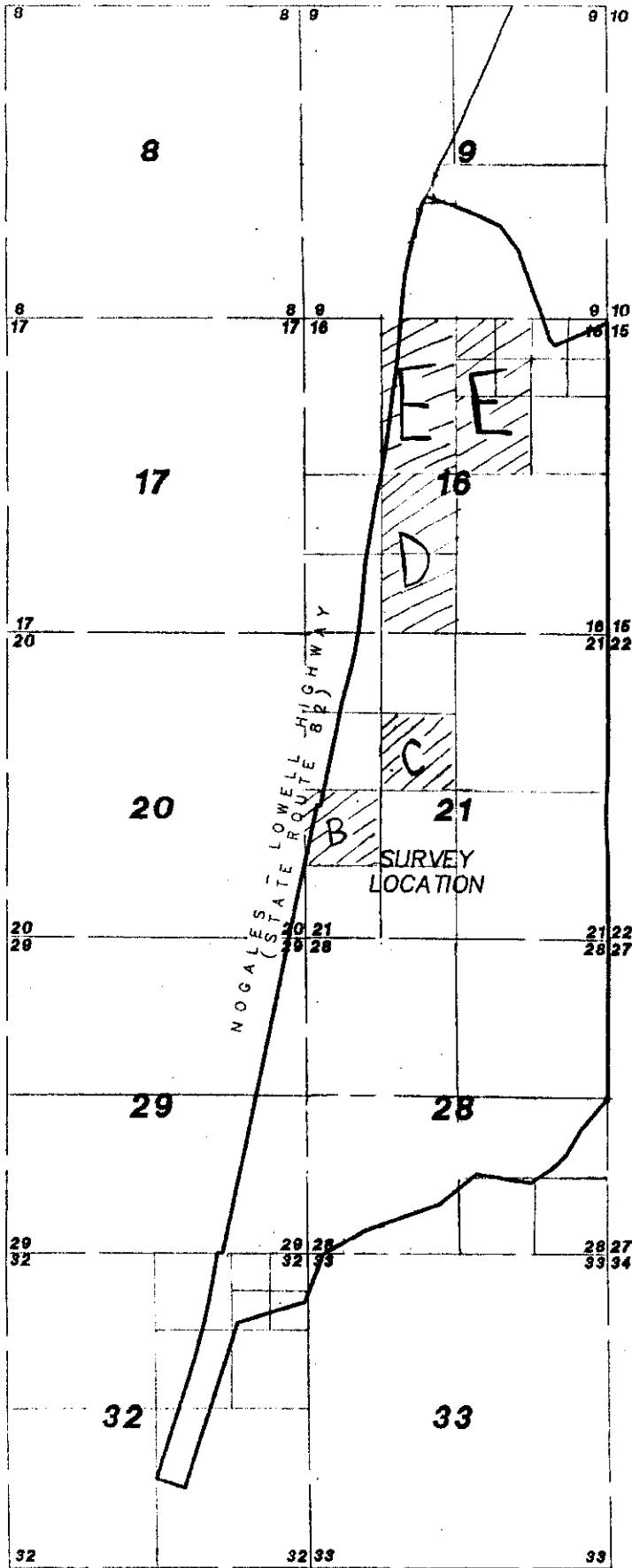
Registry number of right or claim _____ ☐ Entire right or claim ☐ Partial

Use _____ Quantity _____ Lot _____, ¼ ¼ ¼, Section _____, Township _____ N/S, Range _____ E/W
(if applicable)

Use _____ Quantity _____ Lot _____, ¼ ¼ ¼, Section _____, Township _____ N/S, Range _____ E/W
(if applicable)

Use _____ Quantity _____ Lot _____, ¼ ¼ ¼, Section _____, Township _____ N/S, Range _____ E/W
(if applicable)

N
↑



NORTHEAST CORNER
SECTION 33

VICINITY MAP



2005-12800

Page 1 of 4

Requested By: LAWYERS TITLE OF ARIZONA

Suzanne Sainz

Santa Cruz County Recorder

09-27-2005 04:25 PM Recording Fee \$16.00



0512800

WHEN RECORDED, RETURN TO:
Gallagher & Kennedy, P.A.
2575 E. Camelback Rd.
Phoenix, Arizona 85016
Attention: James B. Connor, Esq.

1459638-A10

SPECIAL WARRANTY DEED

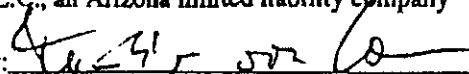
For the consideration of Ten Dollars and other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the undersigned FIRST PATAGONIA CAPITAL COMPANY L.L.C., an Arizona limited liability company (the "Grantor"), does hereby grant and convey to PATAGONIA PROPERTY PARTNERSHIP II, L.L.P., an Arizona limited liability limited partnership (the "Grantee"), that certain real property situated in Santa Cruz County, Arizona legally described as set forth on Exhibit A hereto, together with all rights and privileges appurtenant thereto and any improvements thereon.

The above-described property is conveyed subject to all current taxes and other assessments, reservations in patents and all easements, rights of way, encumbrances, liens, covenants, conditions, restrictions, obligations and liabilities as may appear of record.

The Grantor hereby binds itself and its successors to warrant and defend the title as against all acts of the Grantor herein and no other, subject to the matters above set forth.

IN WITNESS WHEREOF, the Grantor has caused this instrument to be executed this 23 day of September, 2005.

FIRST PATAGONIA CAPITAL COMPANY,
L.L.C., an Arizona limited liability company

By: 

Ferdinand Graf Von Galen

Its: Manager

1298378v116706-0001

STATE OF ARIZONA)
)
County of Pima)
)
County of ~~Santa Cruz~~

The foregoing instrument was acknowledged before me this 23 day of September, 2005, by Ferdinand Graf Von Galen, the Manager of First Patagonia Capital Company L.L.C., an Arizona limited liability company, on behalf of the company.



Notary Public

My Commission Expires:

4/21/05



Notary Public State of Arizona
Pima County
Fred S. Baker
Expires April 21, 2008

1299376v1\6706-0001

EXHIBIT A
LEGAL DESCRIPTION

[SEE ATTACHED]

1299379v116706-0001

EXHIBIT "A"**Parcel I**

Parcels 16, 17, 18, 19, and 20 of the Record of Survey of Sonolita Creek Ranch Estates as recorded in Book 2, at Page 484 in the records of Santa Cruz County, Arizona Recorder of Santa Cruz County, Arizona, being a part of Sections 28, 32, 33, Township 21 South, Range 16 East, Gila and Salt River Base and Meridian, Santa Cruz County, Arizona.

Parcel II

A land Description of a parcel of land located in Section 32, Township 21 South, Range 16 East, Gila and Salt River Meridian, Santa Cruz County, Arizona, Reference record of survey Book 2 at Page 284 and being the following parcel;

Beginning at the Southwest Corner of Parcel 19, Sonolita Creek Ranch, Book 2 Page 484

Thence South 75 degrees 04 minutes 26 seconds East a distance of 560.45 feet, coincident with the South line of Parcel 19

Thence South 18 degrees 06 minutes 11 seconds ^{West} ~~East~~ a distance of 2,929.31 feet, coincident with the Westerly line of lots 6 and 7, Rail X Ranch Estates, Book 2 Page 161, Record of Surveys and also a point on the Northerly line of common area "A"

Thence North 71 degrees 43 minutes 01 seconds West a distance of 517.50 feet, coincident with the Northerly line of Common Area "A" to a point in the Easterly Right-of-Way of State Highway 82

Thence North 18 degrees 15 minutes 50 seconds East a distance of 1,808.56 feet coincident with the Easterly Right-of-Way to a point of curvature to the left having the following parameter, a central angle of 5 degrees 25 minutes 26 seconds, a radius of 11509.16 and a arc length of 1089.50 feet

Thence continuing along said Right-of-Way an arc distance of 1,089.50 feet to the Point of Beginning.

SURFACE WATER CHECK DEPOSIT REQUEST

SUBMITTED BY Barb Norton DATE July 5, 2006

APPLICANT Patagonia Property Partnership II, LLLP
 CHECK NO. 00022658 CHECK AMT. \$40.00
 NAME ON CHECK Land America Lawyers Title
 ADDRESS 1780 N. Mastick Way Suite F
 CITY, STATE, ZIP Nogales, Arizona 85621
 TELEPHONE NO.

REGISTRY NO(S). 36-59465, 36-59466, 36-59467 and 36-59468

	TYPE	NUMBER	FEE	AMOUNT
4315-01	Application For Permit To Appropriate 33 (A & R)		\$50.00 or \$75.00	
4315-02	Permit To Appropriate 33 (A & R)		\$25.00	
4315-04	Claim For Stockpond Application 38		\$10.00	
4315-05	Statement Of Claim Of Right 36		\$5.00	
4315-03	Certificate Of Water Right 33 (A, R, & BB)		\$50.00 or \$75.00	
4315-04	Stockpond Water Right Certificate 38		\$30.00	
4315-08	Application For T/S (33, A, R, & BB, 36)		\$500.00	
4315-01	Assignment - Application For Permit 33 (A & R)		\$10.00	
4315-02	Assignment - Permit To Appropriate 33 (A & R)		\$10.00	
4315-11	Reissued Certificate Of Water Right 33 (A & R)		\$25.00	
4315-12	Assignment - Statement Of Claim Of Right 36	4	\$10.00	\$40.00
4315-14	Assignment - Claim For Stockpond Water Right 38		\$10.00	
4315-13	Reissued -Stockpond Water Right Certificate 38		\$20.00	

TOTAL: \$ \$40.00

REFUND DUE: \$

AMT. UNDERPAID: \$

Remarks:



LAWYERS TITLE OF ARIZONA, INC.

1780 N. Mastick Way, Suite F

Nogales, Az 85621

Phone: (520) 281-2387

Fax: (520) 281-0203

June 26, 2006

Arizona Department of Water Resources
500 N. 3rd Street
Phoenix, AZ 85004

UPS #1Z F9E 132 22 1010 4713

Gentlemen:

Enclosed please find:

Re: Escrow #1313436-AR

Bell Trust - Patagonia Preserve LLC

- ☒ 5 - Change of Well - Check for \$10.00 and attached thereto is copy of recorded vesting Deed;
- ☒ 1 - Assignment of Statement Claimant - #39-09-72809, 39-09-72813; #39-09-72810
#39-09-72812 & 39-09-72808
- ☒ 1 - Assignment of Surface Water Applications and Claims and Assignment and Reissuance of Permits
and Certificated Rights - Check for \$90.00 and attached thereto is copy of recorded vesting Deed:
#4005 & #3821
#38-59399 & #38-559400

Re: Escrow #1459638-AR

First Patagonia Capital Co - Patagonia Property Partnership II

- ☒ Assignment of State of Claim of Right - Check for \$40.00 and attached thereto is copy of recorded
vesting Deed; #33-59465; #36-59466; #36-59467 & #36-59468;
- ☒ Certificate of Water Right - Check for \$35.00 - #33-26063.000;
- ☒ Change of Well - check for \$10.00 - #55-624891 & #55-624883;
- ☒ Assignment of Statement of Claimant #39-73979 & #39-73999;
- ☒ Stockpond Certificate - Check for \$20.00 - #38-59445.0000

Yours very truly,
LAWYERS TITLE OF ARIZONA, INC.


Alexa Ramirez

AR/s
Enc.

1780 N. MASTICK WAY, SUITE F
NOGALES, ARIZONA 85621
(520) 281-2387
FAX (520) 281-0203
WWW.LAWYERSTITLE.COM

FILE
ARIZONA
SECRETARY OF STATE
April 27, 1989

When filed return to:
Terence W. Thompson, Esq.
Brown & Bain, P.A.
P.O. Box 400
Phoenix, Arizona 85001

THE OFFICE OF THE SECRETARY OF STATE
HEREBY DISCLAIMS ANY REPRESENTATION
THAT THESE DOCUMENTS ARE PUBLIC
IN THE PUBLIC INTEREST. THIS DOES
NOT APPLY TO THE FOLLOWING:

DOCK 555 PAGE 976

CERTIFICATE OF FIFTH AMENDMENT
TO CERTIFICATE OF LIMITED PARTNER-
SHIP OF WESTPHALIAN AMERICAN
ASSOCIATES, an Arizona limited
partnership, dated as of January 1,
1989.

ARIZONA SECRETARY OF STATE

RECITALS:

1. Name. The name of the Partnership is "Westphalian American Associates, an Arizona limited partnership" but is being changed as provided herein.
2. Date of Filing of Original Certificate. The Certificate of Limited Partnership (the "Certificate") of the Partnership was dated July 24, 1982 and filed with the Arizona Secretary of State on July 26, 1982 (No. 20000008). The Certificate was amended by that certain Amendment to Certificate of Limited Partnership dated September 30, 1983 and filed on October 18, 1983 (the "First Amendment"), by that certain Amendment to Certificate of Limited Partnership dated November 1, 1984 and filed on December 13, 1984 (the "Second Amendment"), by that certain Third Amendment to Certificate of Limited Partnership dated December 15, 1984 and filed on February 4, 1985 (the "Third Amendment"), and by that certain Fourth Amendment to Certificate of Limited Partnership dated as of January 22, 1988 and filed on January 11, 1989 (the "Fourth Amendment").

AMENDMENTS:

NOW, THEREFORE, the Certificate (as amended) is hereby amended as follows:

1. Paragraph I of the Certificate is hereby amended to read as follows:

"I. The name of the limited partnership is 'First Patagonia Capital Co., Limited Partnership.'"

2. Paragraph III of the Certificate is hereby amended to read as follows:

"III. The location of the Partnership's office required to be maintained by A.R.S. S 29-304 is 608 Great American Tower, Tucson, Arizona 85701."

3. Paragraph V of the Certificate is hereby restated to read as follows:

"V. Names and business addresses of the general and limited partners are:

General Partners

<u>Name</u>	<u>Business Address</u>
Sonoita International Corporation	608 Great American Tower Tucson, Arizona 85701
Anita von Galen	Liebigstrasse 52 D-6000 Frankfurt am Main 1 Federal Republic of Germany

Limited Partners

<u>Name</u>	<u>Business Address</u>
Anita von Galen	Liebigstrasse 52 D-6000 Frankfurt am Main 1 Federal Republic of Germany
Anita von Galen, as custodian for Ferdinand Otto von Galen	Liebigstrasse 52 D-6000 Frankfurt am Main 1 Federal Republic of Germany

IN WITNESS WHEREOF, the undersigned has executed this Amendment as of the date first above written.

SONOITA INTERNATIONAL CORPORATION,
General Partner

By E. O. Anderson

Its President

ARIZONA STATE LAND DEPARTMENT
1624 West Adams
Phoenix, Arizona 85007

STATEMENT OF CLAIM OF RIGHT TO USE
PUBLIC WATERS OF THE STATE

Filing Fee \$5.00

(LEAVE BLANK)

Registry No. 36-59465
Filed 1-30-28 at 8⁵⁰A M.
(DATE) (TIME)

INSTRUCTIONS:

1. Submit Statement of Claim in duplicate.
2. Answer all questions fully.
3. File separate claim for each claimed right to appropriate and for each source of water.

1. Name of Claimant Westphalian American Associates
(Print Last Name or Name of Co.) (First Name) (Middle Initial)
5151 East Broadway, Tucson, Arizona 85711 747-8080
(Address, City, State, Zip) (Phone No.)

2. The purpose(s) and extent of use(s) Stockwater
(Examples: Irrigation, Stockwater, Domestic)

3. The quantities of water used annually _____ from _____
(Gallons or Acre feet) (Day) (Month)
to _____ each year
(Day) (Month)

4. The date(s) the water was first used beneficially Prior to 6 12 1919
(Month) (Day) (Year)

5. The Name(s) of the water course(s)
or Water Source(s) being claimed MONKEY SPRING
(Source Name)

- Tributary to Sonoita Creek on the _____ Watershed

6. The point of diversion is within the NW $\frac{1}{4}$, SW $\frac{1}{4}$, Section 21, map for ap-
of Township 21S, Range 16E, G&SRB&M, in the County of Santa Cruz proximate
(N/S) (E/W) location]

7. The Place(s) of use is in the NW $\frac{1}{4}$, SW $\frac{1}{4}$, Section 21, of
Township 21S, Range 16E, G&SRB&M, in the County of Santa Cruz.
(N/S) (E/W)

8. The legal basis for the claim See, Affidavits of Cora Everhart, Stone Collie and Raymond A. Rich attached; see Deed from Raymond A. Rich attached.
(Attach copies of any documents being filed in support of Claim)

STATE OF ARIZONA)
County of PIMA) SS

Tom Hunt * being first duly sworn on oath, deposes and states that the foregoing Statement of Claim is true and correct of his own knowledge except as to any matters stated therein to be on information and belief and as to all such matters so stated he believes the same to be true and correct.

*Foreman of Rail X Ranch and authorized agent of Westphalian American Development, Inc., corporate general partner of Westphalian American Associates, an Arizona limited partnership. _____

Tom Hunt
(CLAIMANT(S))

Subscribed and sworn to before me this 6th day of January, 1978.

My Commission Expires:

January 24, 1981.
(SEAL)

Luis Shae
(NOTARY PUBLIC)

Filed in Water Rights Claim Registry No. 36-59465 of the State Land Department of
January 30, 1978 at 8:00 a. M.

ARS 45-184 "FILING OF CLAIM
WITH THE DEPARTMENT NOT DEEMED
28-76 ADJUDICATION OF RIGHT"

F. C. Ryan, Director
Water Rights Division

SONOITA QUADRANGLE

ARIZONA

7.5 MINUTE SERIES (TOPOGRAPHIC)

NW/4 ELGIN 15' QUADRANGLE

900 000 FEET

110° 37'

Rail X
Ranch

BM 4437

Monkey
Spring

OB
A2
A1

Casa Blanca
Canyon

Canyon

Lazy RR Ranch

TRAIL

Corral
Canyon

Smith
Canyon

Crittenden
(Site)
Cem

MT. HUGHES QUADRANGLE

ARIZONA-SANTA CRUZ CO.

7.5 MINUTE SERIES (TOPOGRAPHIC)

SW/4 ELGIN 15' QUADRANGLE

1534

900 000 FEET 1535

110

AFFIDAVIT

STATE OF ARIZONA)) ss.
County of Santa Cruz)

COMES NOW, CORA EVERHART, after having been duly sworn
and upon her deposes and says:

That she is over the age of ninety years and has been a continuous resident of Santa Cruz County, Arizona for more than Seventy years last past.

That she is personally acquainted with the lands owned by Raymond A. and Virginia Rich, husband and wife, situated in T 20 and 21 S. in Santa Cruz County, Arizona, and knows of her personal knowledge that the following spring has been put to beneficial use by the above named parties and their predecessors in interest prior to June 12, 1919, and that said spring is located on the deeded lands of said Raymond A. and Virginia Rich in Santa Cruz County, Arizona.


Said spring is hereinafter described by name and location, and the uses to which said spring is put are described.

Monkey Spring, a tributary of Sonoita and Santa Cruz River located in Range 16 E, Section 3, Township 20 S. G&SRB&M, which said spring flows along an open concrete and earth conduit for a distance of $4\frac{1}{2}$ miles, irrigating approximately 150 acres of land and waters an average of 300 head of cattle year long. Said spring is also the primary source of water in 6 dirt tanks all of which are located in the same described area and which are indicated on the attached map, incorporated herein by reference.

Cora Everhart
CORA EVERHART

Subscribed and sworn to before me this 18 day of October, 1973.

My Commission Expires:
My Commission Expires Mar. 20, 1975



Notary Public

AFFIDAVIT

STATE OF ARIZONA)) ss.
County of Santa Cruz)

COMES NOW, STONE COLLIE, after having been duly sworn
and upon his oath deposes and says:

That he is over the age of Eighty years and has been a continuous resident of Santa Cruz County, Arizona for more than Sixty years last past.

That he is personally acquainted with Raymond A. and Virginia Rich, husband and wife, and knows of his personal knowledge that the following spring has been put to beneficial use by the above named parties and their predecessors in interest prior to June 12, 1919, and that said spring is located on the deeded lands of said Raymond A. and Virginia Rich in Santa Cruz County, Arizona.


Said spring is hereinafter described by name and location, and the uses to which said spring is put are described.

Monkey Spring, a tributary of Sonoita and Santa Cruz River is located in Range 16 E, Section 3, Township 20 S. G&SRB&M, which said spring flows along an open concrete and earth conduit for a distance of 4 $\frac{1}{2}$ miles, irrigating approximately 150 acres of land and waters an average of 300 head of cattle year long. Said spring is also the primary source of water in 6 dirt tanks all of which are indicated on the attached map, incorporated herein by reference.

STONE COLLIE

Subscribed and sworn to before me this 15 day of OCTOBER, 1973.

My Commission Expires:
My Commission Expires Mar. 20, 1975



Notary Public

AFFIDAVIT

STATE OF ARIZONA)

) ss.

County of Santa Cruz)

I, Raymond A. Rich, being first duly sworn on oath, deposes and say:

That I am the owner of certain lands located in Santa Cruz County, Arizona, and that on said lands is a spring known as Monkey Spring situated in Township 20 S. Range 16 E. in the NE $\frac{1}{4}$ of the SW $\frac{1}{4}$ section 3, G. & S.R.B. & M.

That in 1966 I acquired title to the property on which said Spring is located from Walter and Helen Kolbe, that the deed indicating said transfer is on record in the County Records Office, Santa Cruz County, Arizona, and that I did acquire all right title and interest to the water rights in said spring from said Grantors.

The affiant further states that said Monkey Spring has a measured flow of eleven hundred gallons per minute; that said entire flow travels by a cement ditch down to and around a reservoir known as Rail X # 1, said reservoir being approximately 170' x 380', with a water depth of zero to seven feet, retained by an earthen dam six feet high, five feet wide at the top; this reservoir was formerly known as Ashburn # 2.

The affiant further states that the flow from said Spring then travels by a concreted ditch to a reservoir known as Rail X # 2 shown on the attached map as "B"; this reservoir being round with a water depth of zero to twelve feet, retained by an earthen dam ten feet high five feet wide at the top and being approximately 200 feet in diameter.

The affiant further states that the water then travels down hill to Sonoita Creek in a cemented ditch, and then crosses said creek in a steel conduit fourteen inches in diameter to the field marked "C" on

the attached map, and thereafter by ditch to the fields marked "D" and "E" on said map, being then retained in a reservoir 120 feet by 500 feet with a water depth of zero to ten feet being retained by an earthen dam ten feet high, eight feet wide at the top.

The affiant further states that said flow is then conducted by ditch to a reservoir known as Rail X #4, said reservoir being approximately 130 feet wide by 900 feet long with a water depth of zero feet to twelve feet, said water being retained by an earthen dam twelve feet high with the width of eight feet at the top.

The affiant further states that over all there are ditches of earthen construction approximately two miles and of concrete construction of approximately two and one half miles.

That said water irrigates approximately 150 acres and waters 300 head of cattle year around and up to 30 head of horses year around.

The affiant further states that said water is then trapped in a small reservoir indicated by R 5 on said attached map along with a small reservoir at R 6 on said attached map, and that the areas marked as "G" and "H" are proposed areas to be developed and cultivated at a later date.

This affiant further states that he and his predecessors in interest have appropriated said water from said Spring for agricultural purposes and for the purpose of watering cattle and horses since before the year 1919.

That this affidavit is made for the purpose of claiming specific water rights as hereinabove stated and which rights were acquired by this affiant and have been used by him and his predecessors in interest since before the year 1919.

Further the affiant sayth not.

DATED this 21 day of October, 1973.

Raymond A. Rich
RAYMOND A. RICH

Subscribed and sworn to before me this 21 day of October, 1973.

Thomas Hunt
Notary Public

My Commission Expires:

Sept 5 - 1976

STATE OF ARIZONA,
County of SANTA CRUZ

I hereby certify that the within instrument was filed and recorded
JUL 30 1974, 19 at 3:15 P.M.

Fee No.:

8454

In Docket No. 177, Page 221-224, at the request of LAWYERS TITLE OF ARIZONA

Indexed:

Compared:

Photostated:

Fee: \$ 4.00

I. R. S.: \$

When recorded mail to:

Michael J. Bush, Esq.
Brown, Vlassis & Bain
222 N. Central, Suite 900
Phoenix, Arizona 85004

Witness my hand and official seal.

G. ESPINOSA MORENO

County Recorder

By

[Signature]
Recorder

MICROFILMED

INDEXED

Warranty Deed

DOCK 177 PAGE 221

For the consideration of Ten Dollars, and other valuable considerations, I or we,

RAYMOND A. RICH and VIRGINIA G. RICH, husband and wife,

do hereby convey to

WESTPHALIAN AMERICAN ASSOCIATES, an Arizona limited partnership.

the following described property situated in Santa Cruz County, Arizona:

[See Exhibit "A" Attached]

SUBJECT TO: [See Exhibit "B" Attached]

And I or we do warrant the title against all persons whomsoever, subject to the matters above set forth.

Dated this 29th day of July, 19 74

[Signature]
Raymond A. Rich

[Signature]
Virginia G. Rich

STATE OF ARIZONA
County of Maricopa } ss.

This instrument was acknowledged before me this 29th day
of July, 19 74, by
RAYMOND A. RICH and VIRGINIA G. RICH

My commission will expire Nov. 17, 1976.

[Signature]
Notary Public

STATE OF _____
County of _____ } ss.

This instrument was acknowledged before me this _____ day
of _____, 19 _____, by

My commission will expire

Notary Public

In Township 21 South, Range 16 East, Gila and Salt River Base and Meridian, Santa Cruz County, Arizona;

All of Section 3; All that portion of Section 4, lying East of State Highway 32, as it existed on February 25, 1966, EXCEPT that portion of the Northeast quarter of said Section 4, required for the passage of cattle to water from Adobe Canyon; All that portion of Section 9, lying East of the Southern Pacific Railroad right of way as it existed on May 9, 1962; All of Section 10; All those portions of Sections 16, 20, 21 and 29, lying East of the Southern Pacific right of way, as it existed on May 9, 1962; All of Section 28; The East half and the East half of the West half of Section 33;

EXCEPT a parcel of land situated in and traversing Sections 21, 16, 9, and 4, Township 21 South, Range 16 East, Gila and Salt River Base and Meridian, Santa Cruz County, Arizona, and lying within the right of way of the Nogales-Lowell Highway and described as follows:

Those portions of said Sections 21, 16, 9, and 4, lying Westerly of the following described line #1 and Easterly of the following line #2:

LINE #1

Commencing at a point which lies South 44° 06' 00" West, 3,884.29 feet from the North Quarter corner of said Section 21; thence South 72° 16' 43" East, a distance of 331.06 feet; thence North 12° 05' 42" East, a distance of 1787.78 feet to the TRUE POINT OF BEGINNING of the line described herein; thence Northerly along a curve, to the left, having a radius of 7789.44 feet, a distance of 1184.19 feet to the North line of Section 21; thence from a Local Tangent Bearing of North 9° 12' 25" East, Northerly along a curve to the left having a radius of 7789.44 feet, a distance of 630.48 feet; thence North 4° 34' 10" East, a distance of 234.83 feet; thence Northerly along a curve to the right, having a radius of 7489.44 feet, a distance of 821.33 feet; thence North 10° 51' 10" East, a distance of 276.68 feet; thence North 6° 54' 07" East, a distance of 178.75 feet; thence North 11° 36' 30" East (North 11° 37' East as built) along the existing Easterly right of way line, a distance of 660 feet; thence Northerly along a curve to the left, having a radius of 11,510 feet, a distance of 1205.72 feet; thence from an Initial Tangent Bearing of North 10° 14' 54" East, Northerly along a curve to the left, having a radius of 11,559.16 feet, a distance of 1090.78 feet; thence North 4° 50' 30" East, a distance of 233.20 feet to the North line of Section 16; thence continuing North 4° 50' 30" East, a distance of 222.32 feet; thence Northeasterly, along a curve to the right, having a radius of 6094.14 feet, a distance of 1631.75 feet; thence North 69° 49' 01" West, a distance of 20 feet; thence from an Initial Tangent Bearing of North 20° 10' 59" East, Northeasterly along a curve to the right, having a radius of 6114.14 feet, a distance of 576.27 feet;

CONTINUED

CONTINUED

thence North 25° 35' 00" East, a distance of 1200.17 feet; thence Northeasterly along the existing Easterly right of way line, a distance of 2020 feet more or less to the North line of Section 9; thence Northeasterly along the existing Easterly right of way line, a distance of 1190 feet more or less to a point on said existing Easterly right of way line, which point lies 80 feet Easterly when measured perpendicularly to the tangent of the construction center line at Highway Engineer's Station P.O.C. 1333 + 00; thence South 81° 31' 14" East, a distance of 20 feet; thence from an Initial Tangent Bearing of North 8° 28' 46" East, Northerly along a curve to the left, having a radius of 4683.66 feet, a distance of 1532.95 feet; thence North 10° 16' 24" West, a distance of 587.70 feet; thence South 79° 43' 36" West, a distance of 20 feet; thence North 10° 16' 24" West, a distance of 400 feet; thence North 79° 43' 36" East, a distance of 20 feet; thence North 9° 58' 17" West, a distance of 1304.81 feet; thence Northerly along the arc of a curve to the left, having a radius of 2914.79 feet, a distance of 165.97 feet to the North line of Section 4, and the end of this line description.

LINE #2

Commencing at a point which lies South 44° 06' 00" West, 3884.29 feet from the North Quarter corner of Section 21; thence North 17° 53' 30" East along the construction center line of said highway a distance of 1779.32 feet, thence North 72° 06' 30" West, a distance of 100 feet, to the TRUE POINT OF BEGINNING; thence from an Initial Tangent Bearing of North 17° 53' 30" East, Northerly along a curve to the left, having a radius of 7539.44 feet, a distance of 1103.00 feet to the North line of Section 21; thence from a Local Tangent Bearing of North 9° 30' 34" East, Northerly along a curve to the left having a radius of 7539.44 feet, a distance of 650.04 feet; thence North 4° 34' 10" East, a distance of 234.83 feet; thence Northerly along a curve to the right, having a radius of 7739.44 feet, a distance of 848.75 feet; thence North 10° 51' 10" East, a distance of 2194.2 feet; thence Northerly along a curve to the left having a radius of 11,359.16 feet, a distance of 1191.73 feet; thence North 4° 50' 30" East, a distance of 217.01 feet, to the North line of Section 16; thence continuing North 4° 50' 30" East, a distance of 238.51 feet; thence Northeasterly along a curve to the right having a radius of 6294.14 feet, a distance of 2278.54 feet; thence North 25° 35' 00" East, a distance of 1200.17 feet; thence Northeasterly along a curve to the left having a radius of 5599.27 feet, a distance of 1015.10 feet; thence North 15° 11' 50" East, a distance of 940 feet more or less to the North line of Section 9; thence continuing North 15° 11' 50" East, a distance of 694.21 feet; thence Northerly along a curve to the left having a radius of 4483.66 feet, a distance of 1993.19 feet; thence North 10° 29' 41" West, a distance of 731.39 feet; thence Northerly along the existing Westerly right of way line, which is a curve to the right, a distance of 590 feet more or less to a point 100 feet left when measured at right angles to Highway Engineer's Station P.O.T. 1361 + 27.34; thence North 10° 16' 24" West, a distance of 1181.34 feet to the North line of Section 4 and the end of this line description.

AND EXCEPT

The East one-half (E-1/2) of the Southeast one-quarter (SE-1/4) and the East one-half (E-1/2) of the West one-half (W-1/2) of the Southeast one-quarter (SE-1/4), Sec. 10, T. 21 S., R. 16 E., Gila and Salt River Base and Meridian, Santa Cruz County, Arizona

Brown and Bain P.A.
222 N. Central Ave.
Phoenix, Ar. 85004

OFFICE COPY

SECTION	TOWNSHIP	RANGE
	1 1	1 1
	1 1	1 1

25637

KIND ENTRY	LEASE-REFERENCE NO.	
36	59462	00

ACCOUNT NO.		CARRYING CAPACITY	BILLING DESCRIPTION	RATE	ACRES	\$	AMOUNT
GRANT FUND	SUB						
14	310	50	Filing Fee				40.00
			Claim of Water Rights				
			36-59462 To 36-59470				
						1	CK
							CK M 40.00+
			Check # 11096		8063	1 30 78	40.00+

CERTIFICATE OF PURCHASE	
\$	UNPAID BALANCE

BILLING PERIOD					
FROM			TO		
MO.	DAY	YR	MO.	DAY	YR

DATE BILLED		
MO.	DAY	YR.
1	30	78

DATE DUE		
MO.	DAY	YR.

TOTAL ACRES	
1	1

TOTAL AMOUNT	
\$	40.00

PAY THIS AMOUNT

RENTAL AMOUNT SUBJECT TO PENALTY AND INTEREST IF NOT PAID ON OR BEFORE DATE DUE (\$)

[illegible]

5% PENALTY OF RENTAL AMOUNT - - - - -	\$		
TOTAL RENTAL AMOUNT PLUS PENALTY - - - - -	(\$		
		TOTAL PENALT. AND INTEREST	
10% INTEREST PER ANNUM OF RENTAL AMOUNT AND PENALTY - NUMBER OF DAYS DELINQUENT () \$	\$		
TOTAL AMOUNT DUE INCLUDING PENALTY AND INTEREST - - - - -	\$		
CASH RECEIVED	\$		
BALANCE DUE OR OVERPAYMENT	\$		

From: [Goldmann, Elizabeth](#)
To: [Blaine, Marjorie E SPL](#); msvogel@fs.fed.us
Cc: [Brush, Jason](#); [Jessop, Carter](#); [Leidy, Robert](#)
Subject: Conference call with USFWS re: Rosemont Mine Biological Opinion
Date: Wednesday, February 26, 2014 8:55:00 AM

Dear Mindy and Marjorie

EPA has scheduled a conference call with Jean Calhoun, USFWS, and staff on March 5, 2014 at 1 pm (PT) to discuss some questions we have on the Biological Opinion for the proposed Rosemont Mine. We would like to extend the invitation to you. We will send out an agenda next week and provide call in information.

Please let me know if you can join us.

Thanks,

Elizabeth

From: [Goldmann, Elizabeth](#)
To: [Blaine, Marjorie E SPL](#)
Cc: [David.J.Castonon@usace.army.mil](#); [spencer.d.macneil@usace.army.mil](#); [Allen, Aaron O SPL](#)
Subject: EPA Comments - Rosemont FHMMP dated April 24, 2014
Date: Monday, April 28, 2014 4:32:00 PM
Attachments: [Rosemont FHMMP 04 24 2014.EPAcomments.docx](#)

Hi Marjorie

Attached are EPA's comments on Rosemont's April 24, 2014 submittal to the Corps: *Rosemont Copper Project – response to Corps staff comments of April 16, 2014 on Habitat Mitigation and Monitoring Plan*.

Please contact Rob Leidy or me if you have any questions.

Thanks, Elizabeth

From: [Goldmann, Elizabeth](#)
To: [Blaine, Marjorie E SPL](#)
Cc: [David.J.Castonon@usace.army.mil](#); [Allen, Aaron O SPL](#); [spencer.d.macneil@usace.army.mil](#); [Brush, Jason](#)
Subject: EPA Comments dated April 9, 2014 on the Rosemont Copper Project HMMP dated April 1, 2014
Date: Wednesday, April 09, 2014 8:55:00 AM
Attachments: [EPAanalysisofRosemontHMMP.04092014.docx](#)
Importance: High

Hi Marjorie

Attached are EPA's comments on the Rosemont Copper Project HMMP dated April 1, 2014. (b)(5)
[REDACTED] Deliberative
[REDACTED] e

Please contact Rob Leidy or me if you have any questions.

Thanks, Elizabeth

From: [Goldmann, Elizabeth](#)
To: [Blaine, Marjorie E SPL](#)
Cc: [Castanon, David J SPL](#); [Diebolt, Sallie SPL](#); [Allen, Aaron O SPL](#); [Brush, Jason](#); [Jessop, Carter](#); [Campbell, Rich](#); [Leidy, Robert](#)
Subject: EPA analysis of Rosemont Copper Project HMMP Implementation Plan Summary dated February 19, 2014
Date: Tuesday, February 25, 2014 3:37:00 PM
Attachments: [EPAanalysisofRosemontMitigation.2.25.2014.docx](#)
[Table1EPAmitigationanalysis.2.25.2014.docx](#)

Hi Marjorie

EPA is providing you with an (b)(5) Deliberative

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

We are available to discuss our comments with you.

Sincerely,

Elizabeth

From: [Goldmann, Elizabeth](#)
To: [Blaine, Marjorie E SPL](#)
Cc: [Brush, Jason](#); [Castanon, David J SPL](#)
Subject: EPA comments - Rosemont Copper Company HMMP Implementation Plan Summary dated March 6, 2014
Date: Tuesday, March 11, 2014 4:26:00 PM
Attachments: [Sonoita Creek Ranch - FIRST PATAGONIA CAPITAL Water Rights Holdings in T....pdf](#)
[Revised Areas of Ranges of Potential Waters of the US.DOCX](#)

Dear Marjorie

EPA received the most recent *Rosemont Copper Project HMMP Implementation Plan Summary Corps File No. SPL-2008-00816-MB* dated March 6, 2014. (b)(5) Deliberative

(b)(5) Deliberative

Sincerely,

Elizabeth

(b)(5) Deliberative

(b)(5) Deliberative

(b)(5) Deliberative

Surface Water (for given location)

NAME: FIRST PATAGONIA CAPITAL

App. No.	File Status	Permit No.	Certificate No.	File Date	Priority Date	County	Water Source	WaterShed
33-26064.1	ACTIVE - FULL	26064.0	26064.0	10/30/1973	10/30/1973	SANTA CRUZ	COTTONWOOD SPRING	SANTA CRUZ RIVER
Land Owner	Location			POD/POU		Water Uses		Quantity
PRIVATE	SE NE 33 20S 16E			Point of Diversion		IRRIGATION		250.00 AFA
	SW NE 4 21S 16E			Place of Use		STOCK		657,000.00 GPA
	SE NE 4 21S 16E			Place of Use				
	SE 4 21S 16E			Place of Use				
	SW 4 21S 16E			Place of Use				
	NE SW NE 33 20S 16			Place of Use				
	NE SW NE 4 21S 16E			Place of Use				
App. No.	File Status	Permit No.	Certificate No.	File Date	Priority Date	County	Water Source	WaterShed
33-26494.1	ACTIVE - FULL	26494.0	26494.0	12/14/1973	12/14/1973	SANTA CRUZ	ALAMO SPRING	SANTA CRUZ RIVER
Land Owner	Location			POD/POU		Water Uses		Quantity
PRIVATE	NE SE 1 21S 16E			Place of Use		DOMESTIC		91,250.00 GPA
						STOCK		182,500.00 GPA
App. No.	File Status	Permit No.	Certificate No.	File Date	Priority Date	County	Water Source	WaterShed
33-26495.1	ACTIVE - FULL	26495.0	26495.0	12/14/1973	12/14/1973	SANTA CRUZ	CORRAL CANYON SPRING	SANTA CRUZ RIVER
Land Owner	Location			POD/POU		Water Uses		Quantity
PRIVATE	SW SE 22 21S 16E			Place of Use		DOMESTIC		657,000.00 GPA
						STOCK		438,000.00 GPA
App. No.	File Status	Permit No.	Certificate No.	File Date	Priority Date	County	Water Source	WaterShed
36-42194.1	ACTIVE - FULL			7/30/1987	1/1/1976	PIMA	CORRAL CANYON SPRING	SANTA CRUZ RIVER
Land Owner	Location			POD/POU		Water Uses		Quantity
PRIVATE	SW SE 22 21S 16E			Point of Diversion		STOCK		6.30 AFA
App. No.	File Status	Permit No.	Certificate No.	File Date	Priority Date	County	Water Source	WaterShed
36-59462.0	ACTIVE - ACTIVE			1/30/1978	5/31/1919		COTTONWOOD SPRING	LOWER GILA RIVER
Land Owner	Location			POD/POU		Water Uses		Quantity
PRIVATE	SW NE 4 21S 16E			Point of Diversion		ANNUAL USE		103.00 AFA
						IRRIGATION		
						STOCK		
App. No.	File Status	Permit No.	Certificate No.	File Date	Priority Date	County	Water Source	WaterShed
36-59463.0	ACTIVE - ACTIVE			1/30/1978	5/31/1919	SANTA CRUZ	COTTONWOOD SPRING	SANTA CRUZ RIVER
Land Owner	Location			POD/POU		Water Uses		Quantity
PRIVATE	SE NE 33 20S 16E			Point of Diversion		ANNUAL USE		480.00 AFA
	SW NE 4 21S 16E			Place of Use		IRRIGATION		
						STOCK		
App. No.	File Status	Permit No.	Certificate No.	File Date	Priority Date	County	Water Source	WaterShed
36-59469.0	ACTIVE - ACTIVE			1/30/1978	5/31/1919	SANTA CRUZ	MONKEY SPRING	SANTA CRUZ RIVER
Land Owner	Location			POD/POU		Water Uses		Quantity
PRIVATE	NE NE 9 21S 16E			Point of Diversion		STOCK		2.80 AFA
App. No.	File Status	Permit No.	Certificate No.	File Date	Priority Date	County	Water Source	WaterShed
36-59470.0	ACTIVE - ACTIVE			1/30/1978	5/31/1919	SANTA CRUZ	MONKEY SPRING	SANTA CRUZ RIVER
Land Owner	Location			POD/POU		Water Uses		Quantity
PRIVATE	NW SW 3 21S 16E			Point of Diversion		ANNUAL USE		1,000.00 AFA
						IRRIGATION		
						STOCK		

Surface Water (for given location)

NAME: FIRST PATAGONIA CAPITAL

App. No.	File Status	Permit No.	Certificate No.	File Date	Priority Date	County	Water Source	WaterShed
38-26063.1	ACTIVE - FULL	26063.0	26063.0	10/30/1973	10/30/1973	SANTA CRUZ	MONKEY SPRING	SANTA CRUZ RIVER
Land Owner			Location		POD/POU		Water Uses	Quantity
PRIVATE			SE NW SW 3 20S 16I		Point of Diversion		IRRIGATION	785.00 AFA
			W2 W2 21 21S 16E		Place of Use		STOCK	657,000.00 GPA
			E2 NE 27 21S 16E		Place of Use			
			NW NW NW 28 21S 1		Place of Use			
			SW NE 9 21S 16E		Place of Use			
			NE NW 16 21S 16E		Place of Use			
			SW SE 16 21S 16E		Place of Use			
			NE NE 9 21S 16E		Place of Use			
			E2 NW 16 21S 16E		Place of Use			
App. No.	File Status	Permit No.	Certificate No.	File Date	Priority Date	County	Water Source	WaterShed
38-59444.0	ACTIVE - ACTIVE		59444.0	1/27/1978	5/1/1952	SANTA CRUZ	NO NAME WATERSHED CANYON	SANTA CRUZ RIVER
Land Owner			Location		POD/POU		Water Uses	Quantity
PRIVATE			NE NE 33 21S 16E		Point of Diversion		ANNUAL USE	2.80 AFA
			NE NE 33 21S 16E		Place of Use		STOCK	
App. No.	File Status	Permit No.	Certificate No.	File Date	Priority Date	County	Water Source	WaterShed
38-59445.0	ACTIVE - ACTIVE		59445.0	1/27/1978	5/1/1951	SANTA CRUZ	NO NAME CANYON	SANTA CRUZ RIVER
Land Owner			Location		POD/POU		Water Uses	Quantity
PRIVATE			NW SW 28 21S 16E		Place of Use		STOCK	2.80 AFA

NAME: FIRST PATAGONIA CAPITAL CO LLC

App. No.	File Status	Permit No.	Certificate No.	File Date	Priority Date	County	Water Source	WaterShed
33-26063.2	ACTIVE - PARTIAL	26063.1	26063.0	10/30/1973	10/30/1973	SANTA CRUZ	MONKEY SPRING	SANTA CRUZ RIVER
Land Owner	Location			POD/POU		Water Uses		Quantity
PRIVATE	SW SW 3 20S 16E			Point of Diversion		IRRIGATION		196.00 AFA
	9 21S 16E			Place of Use		STOCK		657,250.00 GPA
	28 21S 16E			Place of Use				
	21 21S 16E			Place of Use				
	16 21S 16E			Place of Use				
	9 21S 16E			Place of Use				

NAME: PATAGONIA PROPERTY PARTNERSHIP II LLLP

App. No.	File Status	Permit No.	Certificate No.	File Date	Priority Date	County	Water Source	WaterShed
33-26063.3	ACTIVE - PARTIAL	26063.1	26063.2	10/30/1973	10/30/1973	SANTA CRUZ	MONKEY SPRING	SANTA CRUZ RIVER
Land Owner	Location			POD/POU		Water Uses		Quantity
PRIVATE	SW SW 3 20S 16E			Point of Diversion		IRRIGATION		589.00 AFA
	28 21S 16E			Place of Use		STOCK		492,750.00 GPA
	21 21S 16E			Place of Use				
	16 21S 16E			Place of Use				
	9 21S 16E			Place of Use				

Surface Water (for given location)

NAME: PATAGONIA PROPERTY PARTNERSHIP LLLP

App. No.	File Status	Permit No.	Certificate No.	File Date	Priority Date	County	Water Source	WaterShed
36-59465.1	ACTIVE - FULL			1/30/1978	5/31/1919	SANTA CRUZ	MONKEY SPRING	SANTA CRUZ RIVER
Land Owner	Location			POD/POU		Water Uses		Quantity
PRIVATE	NW SW 21 21S 16E			Point of Diversion		STOCK		
App. No.	File Status	Permit No.	Certificate No.	File Date	Priority Date	County	Water Source	WaterShed
36-59466.1	ACTIVE - FULL			1/30/1978	5/31/1919	SANTA CRUZ	MONKEY SPRING	SANTA CRUZ RIVER
Land Owner	Location			POD/POU		Water Uses		Quantity
PRIVATE	SE NW 21 21S 16E			Point of Diversion		STOCK		2.80 AFA
App. No.	File Status	Permit No.	Certificate No.	File Date	Priority Date	County	Water Source	WaterShed
36-59467.1	ACTIVE - FULL			1/30/1978	5/31/1919	SANTA CRUZ	MONKEY SPRING	SANTA CRUZ RIVER
Land Owner	Location			POD/POU		Water Uses		Quantity
PRIVATE	E2 SW 16 21S 16E			Place of Use		ANNUAL USE		183.00 AFA
						IRRIGATION		
						STOCK		
App. No.	File Status	Permit No.	Certificate No.	File Date	Priority Date	County	Water Source	WaterShed
36-59468.1	ACTIVE - FULL			1/30/1978	5/31/1919	SANTA CRUZ	MONKEY SPRING	SANTA CRUZ RIVER
Land Owner	Location			POD/POU		Water Uses		Quantity
PRIVATE	W2 NE 16 21S 16E			Place of Use		ANNUAL USE		163.00 AFA
	E2 NW 16 21S 16E			Place of Use		IRRIGATION		
						STOCK		

From: [Goldmann, Elizabeth](#)
To: [Blaine, Marjorie E SPL](#)
Subject: FW: Indirect loss of potential waters of the U.S. at Rosemont
Date: Wednesday, January 15, 2014 11:25:00 AM
Attachments: [Rosemont Indirect Impacts Alt 3 Barrel 08162013.pdf](#)
[Patterson Annandale 2012 GeomorphicAssessBarrekCreek 18JUL12.pdf](#)

Hi Marjorie

Here is the email from Brian Lindenlaub regarding the calculation of indirect impacts.

-Elizabeth

From: Brian Lindenlaub [mailto:blindenlaub@westlandresources.com]
Sent: Friday, August 16, 2013 10:50 AM
To: Goldmann, Elizabeth
Cc: Blaine, Marjorie E SPL; 'Kathy Arnold'; Jamie Sturgess; 'ANDERSON, ROBERT'; Greg Williams
Subject: Indirect loss of potential waters of the U.S. at Rosemont

Elizabeth,

Per the request of Marjorie Blaine (Corps), I am providing the attached information describing how indirect impacts to potential waters of the U.S. resulting from the Rosemont Project were calculated.

Per Corps guidance, the estimate of indirect loss of potential waters of the U.S. was initially determined based on the area of Barrel Canyon, within the ordinary high water mark (OHWM), between the toe of the perimeter berm and the confluence of Barrel and McCleary canyons. This area is approximately 2.8 acres.

Approximately three weeks ago, Ms Blaine determined that additional indirect impacts to potential waters of the U.S. should be calculated based on the 2012 modeled reduction in surface water flow volume resulting from the Rosemont Project. WestLand has estimated these additional impacts based on the "Barrel Alternative" which has been identified as both the LEDPA by the Corps and the preferred alternative by the Coronado National Forest. Once the approach described here is approved by the Corps, these impacts may be readily extrapolated for the other alternatives.

The Preliminary Administrative Final Environmental Impact Statement (PA FEIS) identifies several discrete downstream segments of Barrel and Davidson canyons which will be impacted by the Rosemont Project. In order, from upstream to downstream, these reach segments are referred to as follows (see attached Figure 1):

- Barrel Canyon Reach 1
- Barrel Canyon Reach 2
- Davidson Canyon Reach 2
- Davidson Canyon Reach 3
- Davidson Canyon Reach 4

For our analysis, Barrel Canyon Reach 1 was further divided into Reaches 1A and 1B in order to reflect the short reach of Barrel Canyon down to the confluence with McCleary Canyon.

The post-mining estimated reduction in average annual flow volume at the SR 83 stream gage (at the point that separates Barrel Canyon Reaches 1 and 2) is approximately 17%. During mining operations, the reduction in average annual flow volume peaks at approximately 36%, then reduces steadily during concurrent reclamation to the final post-mining reduction of 17%. The reduction in surface flows will result in a commensurate reduction in sediment loads, though sediment concentration is anticipated to remain largely unchanged. An evaluation by Golder Associates, Inc. (2012), attached, concluded that the development of the Rosemont Project “will have no significant impact on the geomorphology of either Barrel Creek or Davidson Canyon” due to 1) the sediment-transport limited nature of the two streams, 2) the presence of two downstream grade control structures in Barrel Canyon, and 3) the limited nature of the convective storms within the watershed.

In order to estimate the indirect “loss” of potential waters of the U.S. downstream of the Rosemont Project, the OHWM of Barrel and Davidson canyons was mapped via aerial photo review to the confluence of Davidson Canyon and Cienega Creek. Both drainages are generally confined and the aerial photo OHWM mapping effort is anticipated to have a relatively high degree of accuracy. The area of potential waters of the U.S. within each stream segment was then calculated from the OHWM mapping. Because the loss of function within each of the considered stream reaches is considerably less than 100%, it was determined that the “loss of potential waters of the U.S.” (measured in acres) would be some fraction of the total area of each stream segment. The reduction in average annual flow volume provides a reasonable surrogate for the fractional loss of function. Therefore, the “loss of potential waters of the U.S.” was calculated by multiplying the percent reduction in average annual flow volume for a given stream segment by the total acreage of potential waters of the U.S. in each stream segment.

The attached table provides the estimated “loss of potential waters of the U.S.” for both the post-mining period as well as the construction and operations period (an estimated 25-30 years). During operations, an estimated 28.4 acres of potential waters of the U.S will be “lost”, while post-mining the estimated “loss” is 15.3 acres.

As always, if you have any questions or require an additional information please do not hesitate to contact me.

Regards,
Brian Lindenlaub | Principal
WestLand Resources, Inc.
4001 E Paradise Falls Drive | Tucson, AZ 85712
Office: (520) 206-9585 | Fax: (520) 206-9518

Table 1. Summary of Indirect Impacts to Waters of the U.S. Downstream of the Rosemont Project – Barrel Alternative

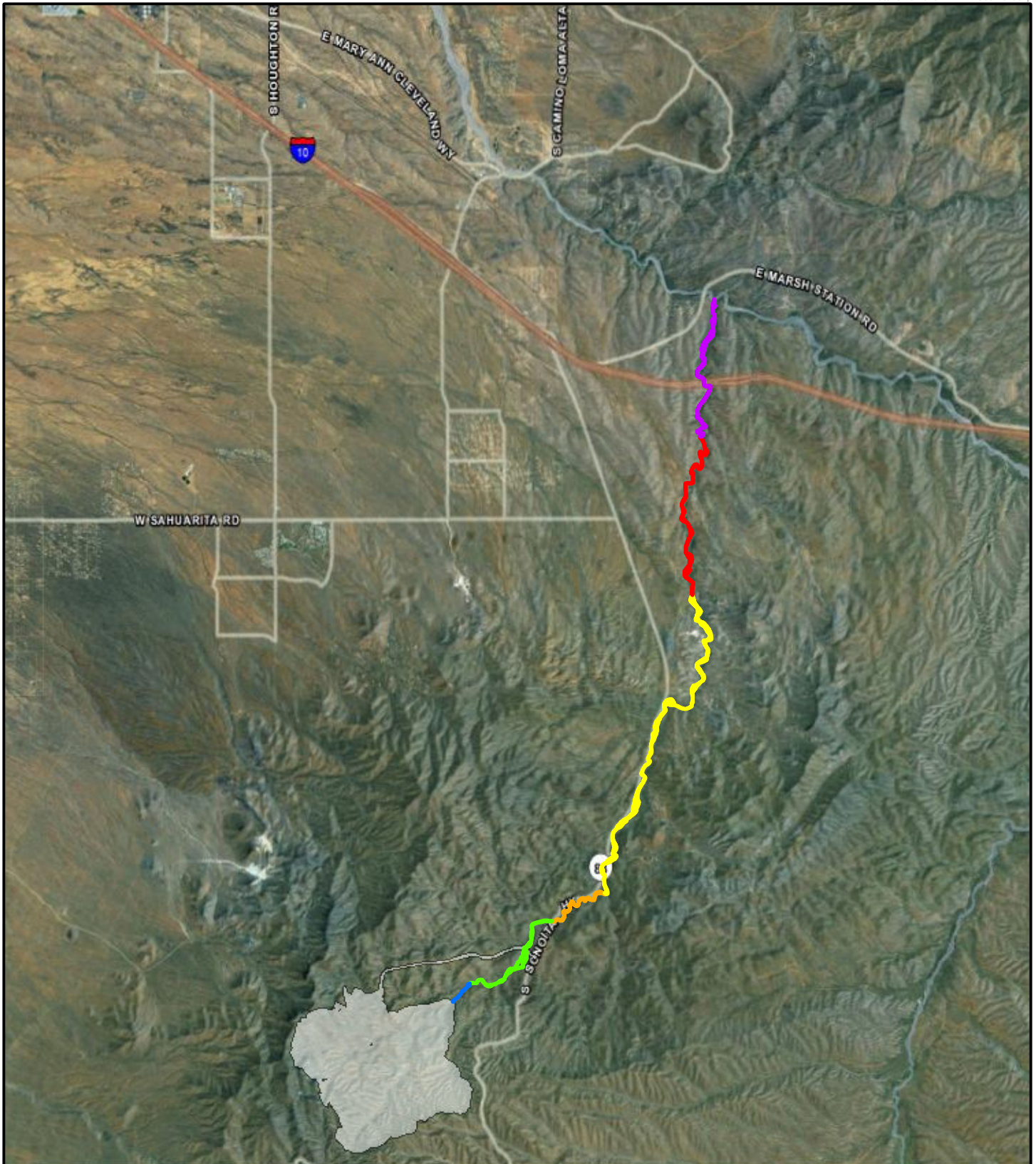
	Barrel Canyon			Davidson Canyon			
	<u>Reach 1A</u> (Waste Dump to McCleary Cyn) ¹	<u>Reach 1B</u> (McCleary Cyn to SR 83) ¹	<u>Reach 2</u> (SR83 to Davidson Cyn)	<u>Reach 2</u> (Barrel Cyn to Davidson Spg)	<u>Reach 3</u> (Davidson Spg to Reach 2 Spg)	<u>Reach 4</u> (Reach 2 Spg to Cienega Ck)	Total
Estimated Potential Waters of the U.S. (acres)	2.8	22	7.2	43.6	20.5	27.4	123.5
Operations (25-30 years)							
Reduction in Average Annual Volume of Stormwater Flow (percent)	100	36 ²	36 ²	26 ³	8 ³	8 ³	---
Peak Indirect Impacts to Offsite Waters during Operation ⁴ (acres)	2.8	7.9	2.6	11.3	1.6	2.2	28.4
Post-Mining							
Reduction in Average Annual Volume of Stormwater Flow (percent)	100	17	17	13	4	4	---
Peak Indirect Impacts to Offsite Waters post Mining ⁴ (acres)	2.8	3.7	1.2	5.7	0.8	1.1	15.3

¹ This definition differs slightly from that within the EIS. Downstream losses within Barrel Canyon are already accounted for between the toe of the waste rock dump and McCleary Canyon in the CWA Section 404 permit application and associated documentation. Please see attached *Figure 1*.

² Data provided by SWCA (2013) and estimated from the proportion of watershed acreage lost during operation. The proportion of watershed lost during operation peaks at 36 percent but is much less both before and after this peak during initial construction and following concurrent reclamation. Therefore, assuming 36 percent loss of watershed acreage is a very conservative estimate and likely overstates the actual amount of stormwater flow volume lost.

³ Data extrapolated from Preliminary Administrative Draft FEIS – Cooperator Review July 2013 and SWCA (2013).

⁴ Indirect impacts to offsite waters calculated by multiplying the acres of waters of the U.S. in each drainage reach (Barrel or Davidson Canyons only) by the modeled or extrapolated percent reduction in average annual volume of stormwater flow of that reach. These estimates are considered conservative, as loss of function of these ephemeral reaches of Barrel and Davidson canyons are not anticipated to be significant (no significant change to stream geomorphology, minor loss of aquifer recharge, dominant xeroriparian habitat supported by local storm runoff rather than stream flow).



ROSEMONT PROJECT PERMIT NO. SPL-2008-00816-MB

Stream Reaches Downstream
of Rosemont Project

Figure 1

TECHNICAL MEMORANDUM

Date:	July 18, 2012	Project No.:	093-81962.0007
To:	Chris Garrett, P. HGW.	Company:	SWCA Environmental Consultants
From:	Jennifer Patterson and George Annandale	Email:	JMPatterson@Golder.com GAnnandale@Golder.com
RE:	GEOMORPHIC ASSESSMENT OF BARREL CREEK		

Golder Associates Inc. (Golder) was requested to conduct a qualitative geomorphic assessment of Barrel Creek. The goal was to determine the current geomorphic condition and develop an opinion on potential geomorphic changes that could occur with the development of the Rosemont Mine. This letter presents observations from the fieldwork and opinions on potential geomorphic changes that might result due to proposed development of Rosemont Mine.

1.0 INTRODUCTION

Barrel Creek is an ephemeral arroyo located about 25 miles southwest of Tucson (Figure 1). Historic downcutting is evidenced by relatively high banks that are near vertical. This cross-sectional geometry is typical for streams in the arid and semi-arid West. Water flows in the creek only after local precipitation events occur within the watershed. The average annual precipitation estimated at the Rosemont Mine site is 17 inches (USFS 2011). The majority of the precipitation falls during the monsoon period from early July to late August. During the monsoon period, intense thunderstorms build in the late afternoon causing heavy precipitation and flash floods. Streams such as these have extremely high sediment transport rates (for example, Reid, et al., 1998 and Greenbaum and Bergman 2006).

2.0 FIELD OBSERVATIONS

Ms. Jennifer Patterson and Dr. George Annandale conducted a field assessment of Barrel Creek from the headwaters to the confluence with Davidson Canyon on May 1 and 2, 2012. Photographic documentation of the site is recorded from upstream to downstream in the Photographs section below. The photographs illustrate the typical observations from the site.

Two important, geomorphic observations were made during the field visit. The first is that the system is sediment-transport limited. The second is that there is bedrock grade control within the creek upstream of the confluence with Davidson Canyon. Each of these observations is detailed below.

2.1 Sediment-transport Limited

When evaluating the potential impacts for a system, one should consider whether the system is sediment-supply limited or sediment-transport limited. Sediment-supply limited means that the river is transporting as much sediment as is available. The riverbed in a sediment-supply limited system will be composed of

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Golder Associates Inc.
44 Union Boulevard, Suite 300
Lakewood, CO 80228 USA
Tel: (303) 980-0540 Fax: (303) 985-2080 www.golder.com

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an armor layer that is transported only during relatively high flows or the bed may be composed of bedrock. An extreme example of sediment-supply limited is “hungry water” that can occur downstream of a dam.

Sediment-transport limited is the exact opposite. There is more sediment in the system than the river can transport during normal or even flood-flow conditions. The sediment-transport limited system is common in ephemeral streams, because of the flashy nature of these systems. A large precipitation event will create a pulse of water flowing down the creek. On the rising limb of the hydrograph, the water picks up more and larger particles of sediment and transports them downstream. However, the hydrograph is short. Typical hydrographs contain multiple peaks due to slugs of precipitation from different areas of the watershed (Reid, et al., 1996). The sediment is dropped out of suspension on the falling limb of the hydrograph. Sediment is transported downstream, but it is deposited a relatively short distance from the source. In a sediment-transport limited system, the bed material will be poorly sorted (i.e., all gradations are present). The bed material will be loose, and an armor layer will not be present (Hassan, et al., 2005).

Barrel Creek is a classic example of a sediment-transport limited system. It is ephemeral, which means that the water only flows occasionally and usually after a precipitation event. The flashy nature of the flows means that sediment is not transported on a regular basis. The bed is composed of a thick layer of unconsolidated sands, gravels, and cobbles. These types of sediment are readily transported during any significant flows within the creek, but the transport stops as quickly as it starts.

Evidence observed in the field confirming that Barrel Creek is a sediment-transport limited system includes the following:

- Deep, unconsolidated, poorly sorted bed material
- Angular particles
- Localized erosion that is not propagating upstream
- Deposited materials on top of bedrock and under bridge

The deep, unconsolidated, poorly sorted bed material also indicates that the system is dropping particles out of suspension in a relatively short time. If the tail of the hydrograph were long, the bed materials would be sorted with coarser material underlying the fine-grained sands. However, the material is just dropped out of suspension at roughly the same time as the water infiltrates into the substrate and quickly disappears. It is deep and unconsolidated, which indicates that it is readily transported with any significant flow. The system has the materials ready to be transported, but it is transport-limited because it is ephemeral.

The angular particles in the bed material indicate that the sediment is not being transported for long distances or for long periods of time. When sediment is transported, it rubs against the bed, bank, and other suspended particles. This will make each grain smoother and rounded. The presence of angular gravels and cobbles indicates that the system is only transporting materials for short times.

Localized erosion was observed in the field in a few locations (for example Photographs 8 and 12). However, this erosion is not propagating upstream. If the system were actively down cutting, the apron on the downstream side of the Barrel Creek Bridge would be severely undercut. But instead, there is a small drop indicating that sediment is not being actively eroded.

The loose sands being deposited on top of bedrock (Photograph 19) and under the bridge (Photograph 11) illustrate the deposition of material at the falling limb of the hydrograph. The grain size is small enough to be transported during any significant flow event. The system is sediment-transport limited.

2.2 Downstream Grade Controls

The second critical geomorphic observations made in the field are the downstream grade controls. A grade control is a critical component of a stream, because it limits the extent of any potential change in the stream gradient. The schematic in Figure 2 illustrates how a grade control limits the extent of erosion both upstream and downstream of the structure. The grade control will stop any upstream migration of head cuts. The grade control acts as a pivot point for the gradient of a river, so erosion upstream of the grade control is also limited.

During the field investigation, two grade controls were identified, as follows:

- Bridge at Barrel Creek (Photograph 9)
- Bedrock across river bottom (Photograph 23)

The upstream grade control is the bridge at Barrel Creek; it is a man-made structure. Because it is man-made, there is the potential that this structure may fail at some time in the future. The downstream grade control is made of bedrock that is erosion resistant, so it will continue to control the stream gradient for an extremely long time. These structures control the hydraulic gradient and therefore the stream power of the creek. The grade controls will limit the erosion capacity of the stream (Figure 2) and a control on depositional processes.

3.0 GEOMORPHIC IMPLICATIONS FOR DEVELOPMENT IN WATERSHED

Concerns have been expressed about the potential impact of the development of the proposed Rosemont Mine on the geomorphology of Barrel Creek and Davidson Canyon. Degradation of these channels, should it occur, could potentially affect the Outstanding Waters of Arizona located in lower Davidson

Canyon. The geomorphologic investigation that was conducted addresses this concern, indicating that the proposed mine development will have no significant impact on the geomorphology of either Barrel Creek or Davidson Canyon.

The geomorphology of fluvial systems is largely dependent on three factors: i.e., water flow, sediment characteristics and availability, and the geometry of stream channels. The justification for stating that the mine will not have a significant impact on Barrel Creek and Davidson Canyon can be formulated in terms of these three variables:

3.1 Sediment

- The area affected by the mine is roughly equal to about 13% of the entire catchment area upstream of the Outstanding Waters of Arizona, located in Davidson Creek (SWCA 2012). Changes in sediment load and runoff from such a small portion of the entire catchment will not have a significant impact on the fluvial geomorphology of the stream system.
- In the worst case, it is estimated that the impact of the mine on total sediment load upstream of the Outstanding Waters of Arizona will amount to a reduction of about 4% (SWCA 2012). This difference between current and predicted sediment load is within the statistical noise of the fluvial system. An estimated change of about a couple percent is therefore deemed insignificant.
- Abundant availability of loose sediment on the surface of the catchment surrounding Barrel Creek and Davidson Canyon will continue to supply directly sediment to the streams during rainstorm events, regardless of the presence of the mine. The amount of sediment thus supplied is greater than what the flowing water can carry, characterizing the transport-limited nature of the stream system.

3.2 Geometry

- The natural grade control that is characteristic of the stream system prevents riverbed degradation and will maintain the sediment transport capacity of the flowing water, regardless of the planned mine development. Maintaining the sediment transport capacity at historic levels and not significantly altering the sediment load to the stream will retain the current geomorphologic character of Barrel Creek and Davidson Canyon, regardless of mine development.

3.3 Water Flow

- It is uncommon for the catchment of Barrel Creek and Davidson Canyon to be subjected to large storm events covering the entire area. Instead, convective storms of limited size occur over portions of the catchment when it rains. The scattered nature of such storm events results in generation of sediment supply from diverse locations in the catchment at different points in time. It rarely happens that sediment would be generated simultaneously from the entire catchment. The nature of sediment supply based on the isolated nature of storms will remain and not be significantly impacted by the mine.
- The transport-limited nature of Barrel Creek and Davidson Canyon explains the non-degrading nature of the stream system. The nature of the stream system will remain unchanged because the change in sediment supply due to the presence of the mine is insignificant, and the sediment transport capacity of the water will essentially remain the same due to the presence of naturally occurring grade control features. It is therefore

reasonable to expect that the creek will not degrade; particularly not near the Outstanding Waters of Arizona in Davidson Canyon and beyond. The creek will remain in a state of quasi-equilibrium; expected from a semi-arid, ephemeral stream.

4.0 REFERENCES

- Greenbaum, Noam, and Nathaniel Bergman. 2006. Formation and evacuation of a large gravel-bar deposited during a major flood in a Mediterranean ephemeral stream, Nhal Me'arot, NW Israel. *Geomorphology* 77, pp. 169-186.
- Hasan, M.A., R. Egozi, and G. Parker. 2005. Experiments on the effect of hydrograph characteristics on vertical grain sorting in gravel bed rivers. Submitted to *Water Resources Research*. November 1, 2005.
- Reid, I., J.B. Laronne, and D.M. Powell. 1998. Flash-flood and bedload dynamics of desert gravel-bed streams. *Hydrological Processes*. 12, pp. 543-557.
- SWCA. 2012. Characteristics of Davidson Canyon Watershed and Sediment Delivery. Memorandum to Golder Associates. July 12.
- U.S. Forest Service (USFS). 2011. Draft Environmental Impact Statement for the Rosemont Copper Project, a Proposed Mining Operation, Coronado National Forest, Pima County, Arizona. September. p. 303.
- Yang, C.T. 1996. *Sediment Transport Theory and Practice*. McGraw-Hill, New York.

FIGURES

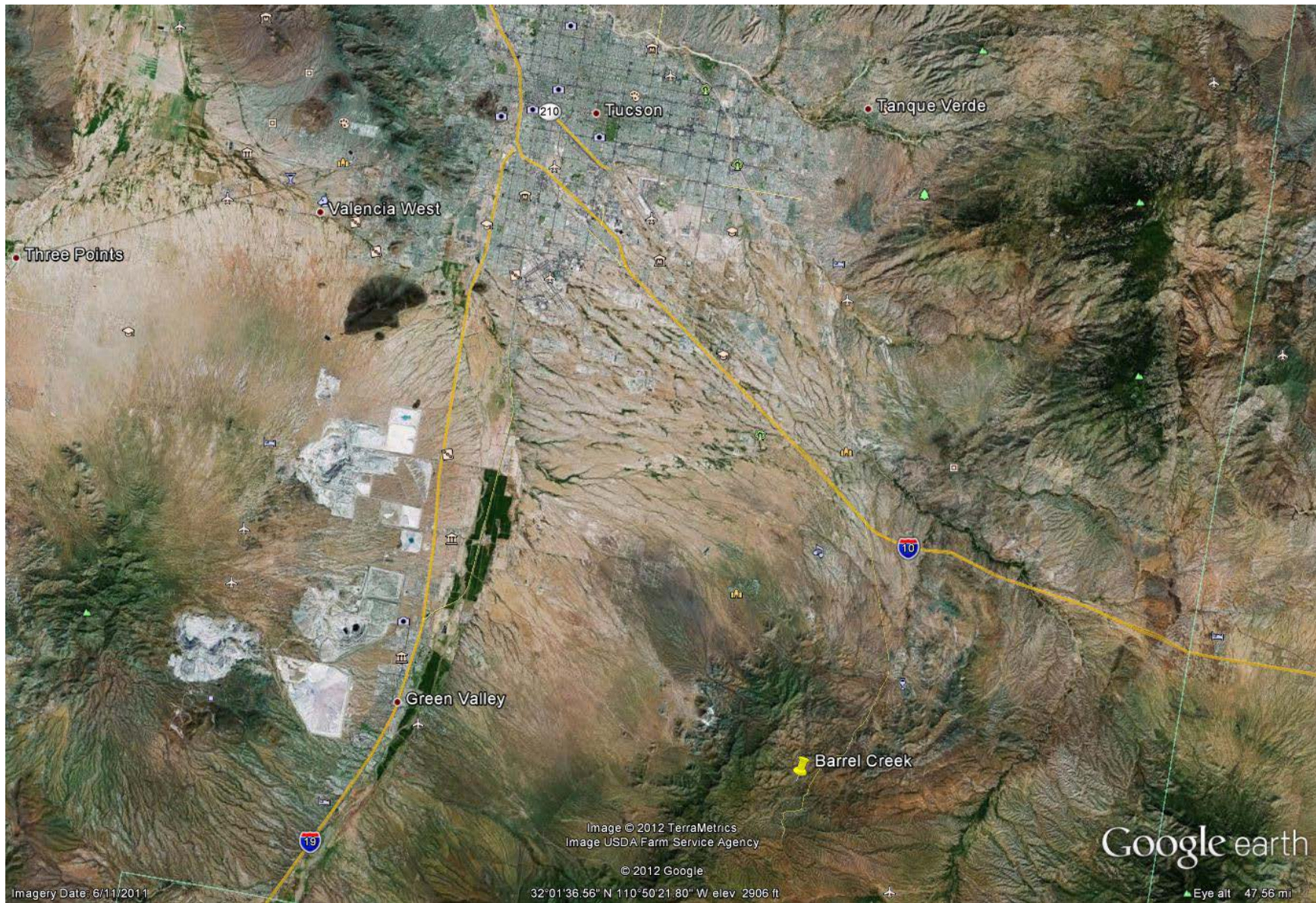


Figure 1 **Site Location Map**

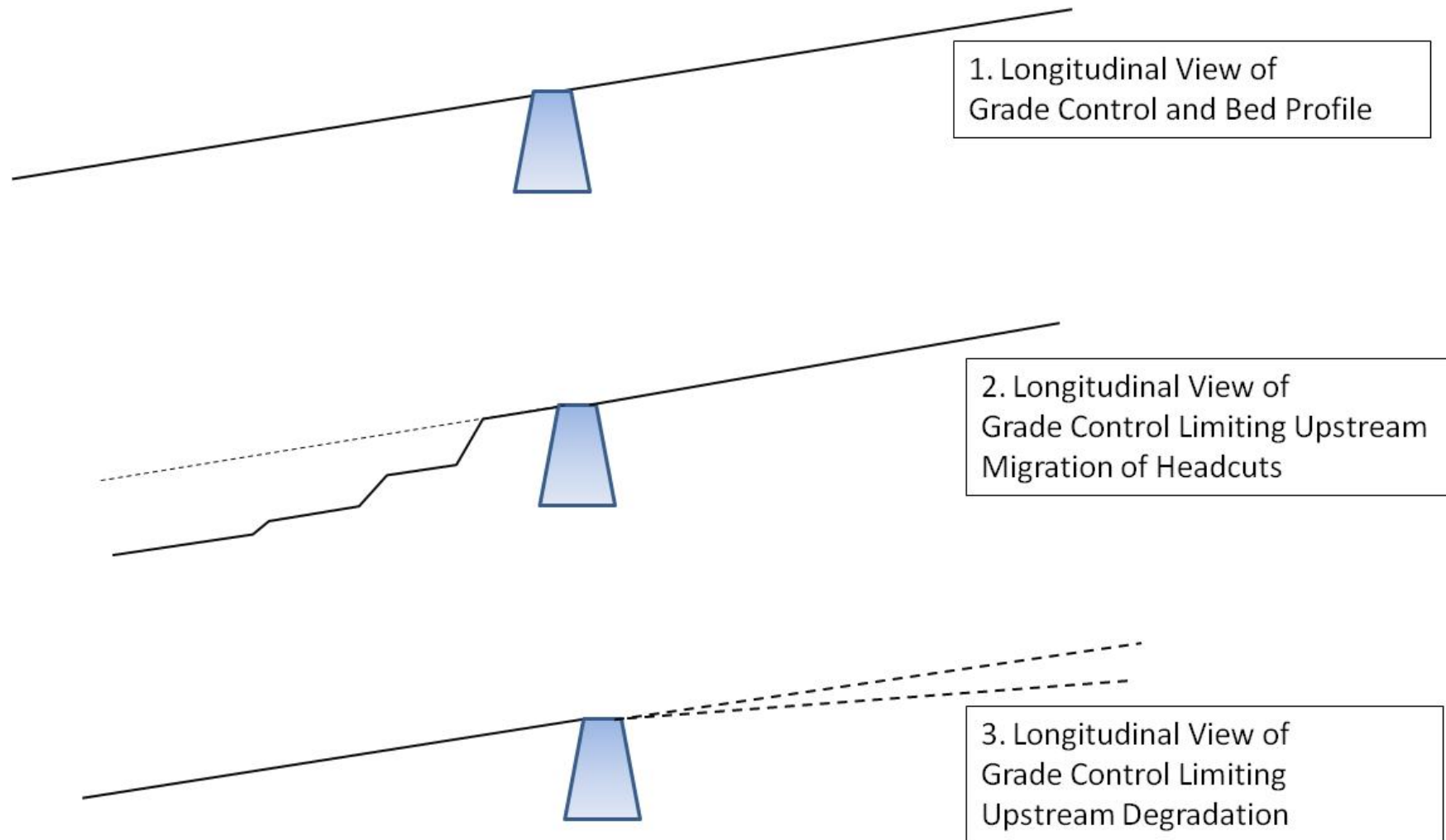


Figure 2 Schematic Illustrating Geomorphic Implications of a Grade Control Structure

PHOTOGRAPHS

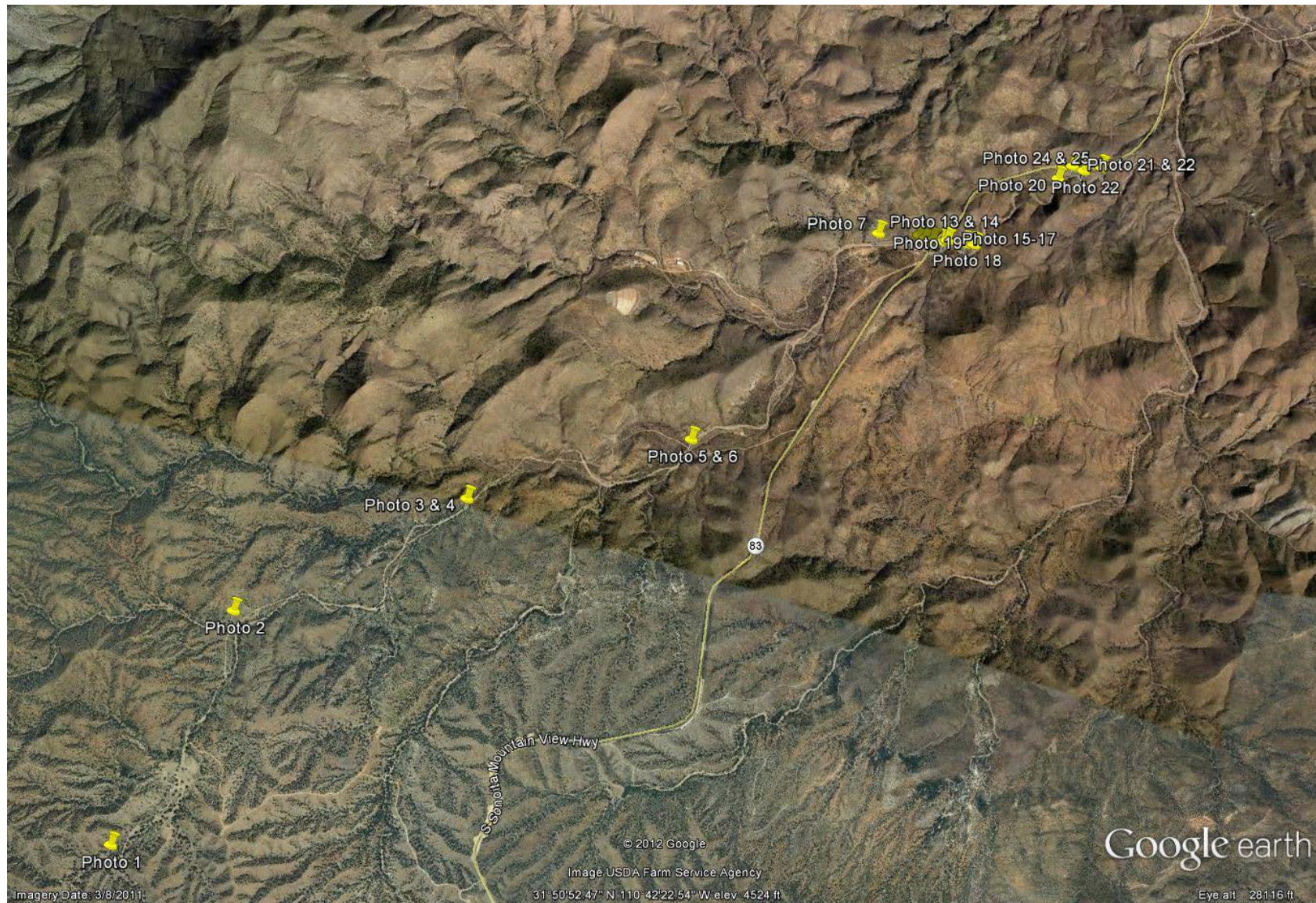


Photo 1 **Photograph Locations**



Photo 2 **Bed material in Upper Barrel Creek. Note angularity of cobbles.**



Photo 3 Organics from flowing water caught in fence. These indicate that water levels were high in the recent past. However, there are fine-grained sands deposited at the same location. This indicates that the system is sediment-transport limited.



Photo 4 Barrel Creek looking upstream. Note the poorly sorted, unarmored bed material.



Photo 5 **Bed material in Barrel Creek. Note the poorly sorted, angular sands and cobbles.**



Photo 6 **Barrel Creek looking downstream. Note the unarmored, thick layer of sands and cobbles.**



Photo 7 Organics from flowing water caught in fence. This indicates that high water was flowing in the creek in the recent history.



Photo 8 Barrel Creek looking upstream. In this location, the bed material is composed of sands and cobbles. The floodplain contains angular cobbles and boulders.



Photo 9 **Small tributary into Barrel Creek. The erosion of this tributary will continue during the next large storm event. However, the erosion will cease when water stops flowing.**



Photo 10 Barrel Creek Bridge looking downstream. Sediment has been deposited on the upstream side of the bridge. The bridge is a local grade control.



Photo 11 USGS gauging station 09484580 Barrel Canyon Near Sonoita, Arizona



Photo 12 **Sediment deposited under bridge at South Sonoita Highway. The concrete apron is a local grade control structure.**



Photo 13 **Erosion on downstream side of apron at South Sonoita Highway Bridge. The erosion is relatively small given the large flows that occur in Barrel Creek. This is another indication of a sediment-transport limited system.**



Photo 14 **Deposition downstream of bridge. The water spreads out after flowing under the bridge, which decreases the transport capacity and deposits sediment.**



Photo 15 **Typical sandy bed material. This material will be readily transported during the next flow.**



Photo 16 **Typical colluvial, boulder-cobble bank material.**



Photo 17 Remnants of boulder bank material. Boulder was left hanging on the root while the smaller particle sizes were eroded.



Photo 18 Typical colluvial, boulder-cobble bank material.



Photo 19 **Depositional, alluvial bank material. This deposition occurred on the downstream side of a large boulder.**



Photo 20 **Bedrock outcrop along bed and bank. The bedrock outcrop is covered with smaller-grained sands that fell out of transport during the falling limb of the hydrograph.**



Photo 21 **Bedrock outcrop along bed. Multiple drops are identified by people standing at different levels. These outcrops are a local grade control for the creek.**



Photo 22 **Seep identified within Barrel Creek.**



Photo 23 Seep produced moist soil right at the bed surface.



Photo 24 **Bedrock grade control extending across entire width of channel.**



Photo 25 Sediment deposited upstream of pinch point. The pinch point in the stream is created by bedrock outcrops. A backwater effect happens during high flows, and sediment falls out of suspension on the upstream side.



Photo 26 Pinch point in stream indicating bedrock grade control.

From: [Goldmann, Elizabeth](#)
To: [Blaine, Marjorie E SPL](#)
Subject: FW: Proposed Rosemont Mine Itinerary
Date: Tuesday, January 14, 2014 8:19:00 PM

Hi Marjorie

I am forwarding to you a proposed itinerary for the field visit on the 29th. Based on your original itinerary, EPA is suggesting some modifications in order to tour LCNA (see below). I was asked to forward it to Dave today, but wanted to make sure you received a copy.

Trina Martynowicz is a special assistant to Jared Blumenfeld. While Trina is handling most of the logistics for EPA, I was asked to assist her with the schedule.

Thanks, Elizabeth

From: Goldmann, Elizabeth
Sent: Tuesday, January 14, 2014 2:10 PM
To: 'Castanon, David J SPL'
Cc: Diamond, Jane; Martynowicz, Trina; Leidy, Robert; Brush, Jason
Subject: Proposed Rosemont Mine Itinerary

Hi Dave

EPA appreciates the invitation to participate on the Rosemont Copper Mine visit. Per Marjorie's request, Westland Resources sent us a tentative site visit itinerary on December 20th. I am providing you with a modified agenda for your consideration. In (b)(5) Deliberative

(b)(5) Deliberative

Since the Regional Administrator (RA) has already toured the proposed Rosemont Mine site, I moved the Sonoita Creek Mitigation Site and LCNCA visits to the morning so that the RA could participate on this portion of the tour should he need to depart following lunch. (b)(5) Deliberative

Please let me know if this is acceptable to the Corps.

Thanks, Elizabeth

(b)(5) Deliberative

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[REDACTED]

[REDACTED]

From: [Goldmann, Elizabeth](#)
To: [Blaine, Marjorie E SPL](#)
Subject: FW: Rosemont Copper Project Hydrology Working Group
Date: Wednesday, June 04, 2014 9:24:00 AM
Attachments: [Hydrology Working Group final 052914.docx](#)

Hi Marjorie

I just realized you are not on this call. I just want to make sure this is not an oversight on USFS' part.

Thanks, E.

From: Ruyle, Jennifer -FS [mailto:jruyle@fs.fed.us]
Sent: Friday, May 30, 2014 11:26 AM
To: Upchurch, Jim -FS; Kingsbury, Jamie -FS; Shafiqullah, Salek -FS; Stamer, Marc -FS; cgarrett@swca.com; mpolm@swca.com; (b) (6); abarclay@swca.com; Ruyle, Jennifer -FS; Calhoun, Jean; jason_douglas@fws.gov; cfsmith@usgs.gov; Vogel, Mindy S -FS; leenhout@usgs.gov; alcoes@usgs.gov; Jessop, Carter; Leidy, Robert; Goldmann, Elizabeth; Jeffrey Simms; Moore, Daniel; Kathy Arnold; blindenlaub@westlandresources.com; David Cerasale; Joyce M. Francis; Raul Vega; JWindes@azgfd.gov; Gurrieri, Joseph T -FS; Congdon, Roger D -FS
Subject: Rosemont Copper Project Hydrology Working Group

Thank you for agreeing to work with the Forest Service as a member of the group that will be taking another look at the hydro information for the Rosemont project. Attached you will find the group objectives and expectations, which will be discussed in more detail on a **conference call June 4th from 9-11 PDT**. Please (b) (6). This call is intended to (1) discuss the purpose of this group, (2) the logistics for the following two-day technical session meetings, which will be held on **June 10th and 11th from 9-4:30 PDT**, and (3) to discuss and share any information that was not included in the FEIS that should be considered at this time. The location and VTC/phone information will be provided to you during the conference call on the 4th.

Again, thank you for your cooperation and support.

Jennifer M. Ruyle
Natural Resources and Planning Staff Officer
Coronado National Forest
300 W. Congress
Tucson, AZ 85701
jruyle@fs.fed.us

(b) (6)

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Hydrology Working Group

Scheduled discussions:

- June 4, 9-11 PDT: Conference call dial (b) (6)
- June 10-11, 9 am-4:30 PDT: In-person /Video Teleconference (location TBA)
- June 18: Potential follow-up conference call

Invited participants:

USFWS, EPA, BLM, USGS, AZGF, USFS and consultants (SWCA), Rosemont Copper and consultants

Objective:

To review the FEIS water analysis, review new information provided by various sources; identify any additional relevant new information; and discuss Groundwater/Surface Water interactions, uncertainties and context as it relates to the analysis of ground and surface water resources conducted for and disclosed in the Rosemont Copper Project FEIS.

The intent is to obtain and discuss information from participants that will aid the Forest Service in carrying out their obligation to review new information or changed conditions applicable to the water resources analysis conducted for the FEIS. However, no consensus advice or recommendations resulting from group deliberation or interaction is expected or will be solicited.

****NOTE:** Any information relevant to discussions needs to be shared with all invited attendees. To allow time for review, please provide any existing information back to Melissa Polm (mpolm@swca.com) by June 6, and she will distribute to the group. We anticipate these discussions to extend through the month of June, depending on the extent and scope of the information provided.

Supplemental Information Report (SIR)

A SIR will be prepared by the Forest Service to facilitate review of the FEIS water resources analysis and discuss any new information or changed conditions that have been identified following publication of the FEIS. This document will be prepared by the Forest Service and conclusions made in this document will be the responsibility of the Forest Service.

The objective of Supplemental Information Report is:

- To review and document new information received after the FEIS was published;
- To determine whether or not the new information or changed circumstances are within the scope and range of effects considered in the original analysis;
- To determine whether a correction, supplement, or revision to the environmental document is or is not necessary.

Supplemental Biological Assessment (BA)

A Supplemental BA will be prepared by the Forest Service to integrate new information or changed conditions, both Hydrological and Biological, into the analysis of impacts to federally listed Threatened and Endangered Species. This document will begin formal consultation between the Forest Service and USFWS for the Rosemont Copper Project.

From: [Goldmann, Elizabeth](#)
To: [Blaine, Marjorie E SPL](#)
Cc: [Leidy, Robert](#)
Subject: FW: Tentative site visit itinerary
Date: Monday, January 06, 2014 10:52:00 AM

Hi Marjorie

Happy New Year. Thanks for your voicemail and request that Brian Lindenlaub forward a copy of the tentative agenda to EPA. I have forwarded the agenda to management. (b)(5) Deliberative

[REDACTED]
[REDACTED]
[REDACTED]

[REDACTED] [REDACTED]. I will let you know when we get more information from management and the RA's office. Please call Rob or me if you would like to discuss this further.

Thanks! Elizabeth

From: Brian Lindenlaub [mailto:blindenlaub@westlandresources.com]
Sent: Friday, December 20, 2013 2:52 PM
To: Goldmann, Elizabeth
Cc: 'Kathy Arnold'; 'Blaine, Marjorie E SPL'
Subject: Tentative site visit itinerary

Elizabeth,

Per the request of Marjorie Blaine, I am providing this tentative itinerary for the 29 January 2014 site visit to the Rosemont Project. Please note that the details of this itinerary have not yet been approved by the Corps.

8:00 am	Meet at I-10 and SR-83
8:30 am	Stop at Hidden Valley Ranch for restroom break and quick overview of reclamation test plot/solar site/etc.
9:15 am	Stop at the overlook along SR-83 to view project site
9:30 am	Walk to Rosemont Spring
10:00 am	Center of Pit – see Barrel and Wasp canyons
10:30 am	Travel to plant site area
11:00 am	Travel through McCleary Canyon
11:30 am	Leave site and travel to Ranch near Greaterville
12:00 pm	Lunch
12:45 pm	Travel to Sonoita Creek Ranch mitigation site
2:15 pm	Travel back to Pantano Dam ILF
3:00 pm	Meet Pima County at Colossal Cave Road
5:30 pm	Complete Tour

If you have any questions, please contact me.

Regards,

Brian Lindenlaub | Principal

WestLand Resources, Inc.

4001 E Paradise Falls Drive | Tucson, AZ 85712

Office: (520) 206-9585 | Fax: (520) 206-9518

From: [Goldmann, Elizabeth](#)
To: [Blaine, Marjorie E SPL](#)
Date: Monday, January 06, 2014 11:46:00 AM
Attachments: [double dipping- preamble 2008 mitigation rule.PDF](#)

Hi Marjorie

I am just following up on our last discussion (b)(5) Deliberative

[REDACTED]

Thanks, Elizabeth

refers to an authorized or permitted activity. One commenter recommended that the agencies reconsider use of the term "ecological." Many readers may view this only in terms of species habitat, while in some cases other functions, such as flood control or water quality improvement, may be as or more important than habitat.

To provide clarity in the final rule, we have used the term "project" to refer to compensatory mitigation projects, and used the terms "permitted impacts" and "authorized impacts" when referring to the activities that adversely affect waters of the United States and may require compensatory mitigation. The term "ecological," as used in this rule, is intended to be interpreted broadly as dealing with interrelationships of organisms (including humans) and their environment. The term "ecological" can refer to other features and functions of aquatic systems besides species habitat. For example, ecological functions provided by aquatic resources also include biogeochemical functions, which can help improve water quality. The agencies agree that water quality and flood control are important ecological services that should be compensated for when adversely impacted by permitted activities.

One commenter stated that the proposed rule has implications for USDA program participants who perform conservation or other activities in wetlands and for wetland activities conducted on National Forest System (NFS) lands. The USDA is exploring how it may facilitate its constituents' involvement in wetland mitigation activities.

This rule specifies compensatory mitigation requirements for DA permits. Compensatory mitigation projects may be conducted on agricultural lands and NFS lands. District engineers will consider the number and type of compensatory mitigation credits that may be provided through aquatic resource restoration, establishment, enhancement, and/or preservation activities on these lands, over and above any environmental improvements that result from USDA programs (see § 332.3(j) [§ 230.93(j)]). Resources that are restored, established, enhanced or preserved to satisfy the requirements of other federal programs may not also be used for compensatory mitigation for DA permits, although district engineers may evaluate and approve on a case-by-case basis situations where a consolidated project is used to satisfy more than one set of requirements, provided the same resource is not "double counted." For example, if 10 acres of wetlands were needed as

compensatory mitigation for a DA permit, and 10 acres were needed for some other federal program, a 20 acre project could be authorized to fulfill the requirements of both, but the same 10-acre project could not.

One commenter said that the agencies should use "District Commander" instead of "district engineer" when referring to the person that will implement this rule. The term "District Commander" refers to the person in charge of a particular Corps district. The term "district engineer" refers to the District Commander and any of his or her designees (i.e., persons who are authorized to take actions on his or her behalf). This rule uses the term "district engineer" because most day-to-day regulatory decisions are made by the District Commander's designees.

One commenter stated that subsurface impacts are not addressed, including subsurface extraction (mining) of oil, gas, ground water, and the aquifer matrix (e.g., rock, sand, shell). The commenter cited an example where a Corps permit involved the removal of thousands of acres (surface area) of aquifer matrix (in that case, limestone), resulting in greatly increased groundwater flow occurring in the vicinity of these mine pits despite erroneous assumptions of low flow by the regulatory agencies.

It is not possible in this preamble to address the details of the particular case the commenter cites. To the extent that DA authorization is required for subsurface extraction activities, district engineers will determine the need for compensatory mitigation on a case-by-case basis.

Transition to the New Rule

Several commenters recommended that the agencies clarify that the new regulations apply only to applications submitted after the effective date of the rules. One commenter added that the rule should recognize that applicants in the permitting process have expended substantial resources needed to obtain permits under the current rules, and those resources have been committed in reliance on the current rules governing compensatory mitigation. Therefore, the new requirements should not be applied retroactively to permit applicants who have invested substantial effort in developing data and plans under the previous rules and guidance. One commenter requested a clear statement that the rule does not apply to existing compensatory mitigation projects under Corps permits.

This final rule will apply to permit applications received after the effective date of this rule, unless the district

engineer has made a written determination that applying these new rules to a particular project would result in a substantial hardship to a permit applicant. In such cases, the district engineer will consider whether the applicant can fully demonstrate that substantial resources have been expended or committed in reliance on previous guidance governing compensatory mitigation for DA permits. Final engineering design work, contractual commitments for construction, or purchase or long-term leasing of property will, in most cases, be considered a substantial commitment of resources. Permit applications received prior to the effective date will be processed in accordance with the previous compensatory mitigation guidance.

Need for Additional Guidance

Four commenters requested more detailed guidance on how and when riparian areas and upland buffers can be used as compensatory mitigation. Several commenters requested further guidance from agencies to implement the watershed approach consistently across the nation, on issues such as determination of watershed boundaries, information needed in watershed plans, and how to identify the needs of a particular watershed. Other commenters recommended that the agencies develop guidance on compensatory mitigation for open and navigable waters, performance standards, mitigation ratios, financial assurances, the implementation of adaptive management, and credit determination methods. Another commenter suggested that the agencies prepare regional reference manuals that provide guidance on how to best design compensatory projects appropriate to meet the needs of watershed units in that region.

Many of these questions, such as how to determine watershed scale and boundaries, must be answered by district engineers at a regional or local level, to address landscape variability and other factors. Other questions must be answered on a case-by-case basis, after considering the impacts and the compensatory mitigation that may be necessary to offset those impacts. However, we recognize the need to provide more information to the public and agency personnel, and we will continue to develop guidance, as necessary, outside of this rulemaking.

Economic Issues

Two commenters expressed concern over the increase in mitigation costs that will result from more stringent

Double Dipping

From: [Goldmann, Elizabeth](#)
To: [Castanon, David J SPL](#); [Blaine, Marjorie E SPL](#)
Cc: [Diamond, Jane](#); [Brush, Jason](#)
Date: Wednesday, January 15, 2014 11:59:00 AM
Attachments: [Tohono Oodham Scoping Letter 011414 TM.DOCX](#)

Hi Dave and Marjorie

I have attached a draft copy of the (b)(5) Deliberative

[REDACTED]

Thanks, Elizabeth

From: [Goldmann, Elizabeth](#)
To: [Blaine, Marjorie E SPL](#)
Subject: RE: Revised MRC Tables and Summary (UNCLASSIFIED)
Date: Tuesday, March 18, 2014 9:24:00 AM

Thank you Marjorie,

Elizabeth

-----Original Message-----

From: Blaine, Marjorie E SPL [<mailto:Marjorie.E.Blaine@usace.army.mil>]
Sent: Sunday, March 16, 2014 4:58 PM
To: Goldmann, Elizabeth; Leidy, Robert
Subject: FW: Revised MRC Tables and Summary (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

FYI. This is based on our team's calculations for the MRC. I did the summary.

Thank you!

Marjorie

Assist us in better serving you.

You are invited to complete our customer survey, located at the following link:

http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey

-----Original Message-----

From: Blaine, Marjorie E SPL
Sent: Friday, March 14, 2014 6:27 PM
To: 'Kathy Arnold'; 'Jamie Sturgess'
Cc: Castanon, David J SPL; Diebolt, Sallie SPL
Subject: Revised MRC Tables and Summary (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Kathy

Dave Castanon and I had an opportunity to further discuss the mitigation calculations. I have attached the draft Mitigation Ratio Checklists and also a Summary Table. Please note these are draft because changes or details of the mitigation proposals could result in changes to the calculations....in either direction.

As you will see, Rosemont has adequate mitigation acreages to offset the indirect impacts to 28.4 acres of WUS through enhancement at Sonoita Creek Ranch and Fullerton Ranch assuming the plans will be mitigation rule compliant by April 1, 2014. RM does not need the preservation credits (approx 2.9 ac) from DC Parcel 3 towards the indirect impacts. I do not see any potential at DC 3 for any type of restoration credits.

As we discussed, until we have a well-documented method to determine the OHWM of the constructed channels, I am currently using the low end of 13.51 acres. There is potential for the acreage of the constructed channel within the OHWM to increase but RM will have to, again, thoroughly document how an increased number was calculated for OHWM in a designed channel. Using the 13.51 acres with a mitigation ratio of 5:1, RM currently has 2.7 restoration credits towards the 40.4 of restoration credits required to offset direct impacts to WUS; an additional 37.7 credits of restoration are needed which, under the current ratio calculation of 5:1 would constitute an additional 188.5 acres of restored WUS.

A couple other important notes to reiterate:

- Currently, with the submittals we have at hand, none of the mitigation plans are compliant with the 2008 Mitigation Rule. I refer you to 33 CFR 332.4(c)(2)-(c)(14) as a starting point but compliance with the MR is not limited to the quoted portion of the 2008 MR.
- As you have pointed out and we have discussed, the MR does not require restoration to offset direct impacts to WUS. However, due to the significant impacts of the proposed mine on pretty high functioning WUS, we do not believe that RM could get to a "no significant degradation" determination by any means other than restoration.
- There is potential for the ratios to change (although RM does not need any additional mitigation for indirect impacts so I would recommend you focus just on the 40.4 ac of restoration credits needed to offset direct impacts). Ratios can go up or down but the way to bring them down is to provide a very robust mitigation plan(s) for restoration of WUS.
- If RM were to identify an additional site which would meet the requirements for restoration (re-establishment or rehabilitation) of WUS and would be acceptable to the Corps, a separate mitigation ratio calculation would be done for that site and plan.
- Should an ILF sponsor in a proximal watershed be willing to sell RM advance credits for a restoration mitigation plan, it could potentially offset some of the credits needed.
- The proposals you have for fencing at Fullerton Ranch and SCR constitute enhancement, not restoration in the form of rehabilitation (as RM has proposed). The definitions are:

Enhancement means the manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

Rehabilitation means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

Fencing results in an improvement in a specific(s) aquatic resource function(s) which currently exist. The washes at the Fullerton and SCR sites are not in a degraded state and they are functioning as they should. Fencing will allow

enhancement of grasslands and some scrub riparian habitat and will reduce erosion and sediment transport in buffers. But fencing outside the WUS does not involve the repair of any natural or historic functions to degraded WUS at Fullerton or SCR which, again, are not degraded.

By Monday, I will also provide my specific comments to the current mitigation plan.

Thanks, Kathy. Please let me know if you have questions.

Marjorie Blaine
Senior Project Manager/Biologist
U.S. Army Corps of Engineers
Tucson Project Office, Regulatory Division
5205 E. Comanche Street
Tucson, AZ 85707
(520) 584-1684 (phone)
(520) 584-1690 (fax)

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Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

From: [Goldmann, Elizabeth](#)
To: [Blaine, Marjorie E SPL](#)
Subject: RM - Mitigation Ratio Checklist SOP
Date: Wednesday, February 12, 2014 3:57:00 PM

Hi Marjorie

I appreciate you and Sallie taking the time to talk with us this morning. (b)(5) Deliberative

[REDACTED]

[REDACTED]

[REDACTED]

Thanks,

Elizabeth

From: [Goldmann, Elizabeth](#)
To: [Blaine, Marjorie E SPL](#)
Cc: [Jessop, Carter](#)
Subject: RM EIS traffic analysis
Date: Thursday, May 01, 2014 12:16:00 PM

Hi Marjorie

(b)(5) Deliberative



Thanks, Elizabeth

(b)(5)
Deliberative



(b)(5)
Deliberative

(b)(5) Deliberative



From: [Goldmann, Elizabeth](#)
To: [Blaine, Marjorie E SPL](#)
Subject: RM
Date: Monday, April 07, 2014 5:03:00 PM
Attachments: [Rosemontdraft401cert.EPAcommentltr.PDF](#)

Hi Marjorie

Jason Brush is sending to Dave Castanon EPA's comment letter on ADEQ's Public Notice re: Draft 401 Water Quality Certification.

(b)(5) Deliberative

A large rectangular area of the document is redacted with a solid black box. The text "(b)(5) Deliberative" is written in red at the top left of this redacted area. Below the main redacted block, there is a smaller, separate rectangular redaction box.

Thanks, Elizabeth



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street
San Francisco, CA 94105-3901

APR 07 2014

Michael Fulton, Water Quality Division Director
Arizona Department of Environmental Quality
Surface Water Section/State 401 Certification/MS 5415A-1
1110 West Washington Street
Phoenix, Arizona 85007

Subject: State of Arizona Clean Water Act (CWA) Draft Section 401 Water Quality Certification for the Rosemont Copper Project, Pima County, Arizona

Dear Mr. Fulton:


Thank you for the extended opportunity to review the draft CWA Section 401 water quality certification (certification) and supporting information for discharges associated with the proposed Rosemont Copper Project. With Arizona's designation of portions of the Cienega Creek watershed as "Outstanding Arizona Waters" (OAWs), the EPA supports the state's broadest exercise of legal discretion to protect these remarkable resources. We are submitting the enclosed comments as a continuation of our interagency coordination on the mine's potential water quality consequences to the OAWs of the Cienega Creek watershed.

After careful consideration, EPA believes the draft certification and supporting information provide an insufficient basis from which to conclude existing water quality will be maintained (*e.g.*, ongoing attainment of designated beneficial uses). In general, the draft certification relies on lagging indicators (post-discharge monitoring) to trigger corrective actions, rather than a preventative approach to ensure the protection of water quality in the OAWs. Those corrective actions also lack critical specificity with regard to water supply, the ability to arrest and reverse water quality problems should they be detected, and the enforceability of conditions given varying jurisdiction over proposed monitoring areas.

The U.S. Forest Service's Final Environmental Impact Statement (FEIS) and supporting documentation conclude that the Rosemont Copper Project will adversely modify surface and groundwater hydrology, sediment transport, and pollutant loadings in the watershed. EPA believes the available evidence indicates a substantial risk to designated beneficial use standards (*e.g.*, fish, wildlife and habitat) set by the state for Davidson Canyon and Cienega Creek. The EPA recommends that no 401 certification be issued unless the discharger can implement specific preventative actions that provide a high degree of confidence that designated uses will be maintained.

Please do not hesitate to contact me with any questions or concerns you may have regarding the enclosed comments at (415) 947-8707.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jane Diamond', with a long horizontal flourish extending to the right.

Jane Diamond
Director
Water Division

cc: Jim Upchurch, U.S. Forest Service
Colonel Kimberly Colloton, U.S. Army Corps of Engineers
Jean Calhoun, U.S. Fish and Wildlife Service
Ray Suazo, Bureau of Land Management
Chuck Huckelberry, Pima County

EPA Region 9 comments on the *Draft Section 401 Water Quality Certification for the Rosemont Copper Project* dated February 21, 2014 (Draft 401 Certification), and the *Basis for State 401 Certification Decision Rosemont Copper Project ACOE Application* No. SPL-2008-00816-MB (Basis for Decision)

Protecting “Outstanding” Water Quality Downstream of the Rosemont Mine

The State of Arizona has designated reaches of both Davidson Canyon and Cienega Creek as OAWs due to, among other factors, their exceptional ecological and recreational significance and the presence of federally endangered and threatened species. Water quality in these reaches currently meets or exceeds applicable water quality standards, and any lowering of water quality in OAWs is prohibited.

ADEQ states in its Basis for Decision that, “In order to issue a State 401 water quality certification, ADEQ must be satisfied that any modifications to hydrology, sediment transport or water quality, as a result of the proposed activities under the § 404 permit, will not result in adverse water quality impacts to the downstream OAWs.”¹

Rosemont Mine proposes no direct discharges to OAWs. However, as ADEQ acknowledges in its Basis for Decision, “As part of its certification process, ADEQ may impose additional controls, conditions or mitigation measures, on indirect discharges that occur upstream of or to tributaries of an OAW to maintain and protect existing water quality in a downstream OAW.”²

ADEQ has proposed the following additional measures in its Draft 401 Certification to maintain and protect existing water quality in Davidson Canyon and Cienega Creek:

5.2 Specific Conditions

- 1) Within 180 days of the effective date of the CWA 404 permit, the applicant shall submit to ADEQ, for review and approval, a surface water mitigation program designed to maintain aquatic and riparian resources at pre-project levels in Davidson Canyon and Lower Cienega Creek. The program shall include, but is not limited to, a description of measures that will be taken to offset predicted reductions in surface water flow, in response to the project, along with a proposed schedule for implementation. The Final Environmental Impact Statement (FEIS) predicts a 17.2% reduction in average annual post-closure stormwater runoff volume as a result of the proposed activities. The surface water mitigation program shall describe measures that will offset the reduced runoff volume should it occur. The draft mitigation program shall be submitted to the address and contact person in Section 4.0.

¹ Basis for Decision at pg. 2.

² Basis for Decision at pg. 2; *see also* ADEQ Draft Antidegradation Implementation Procedures (April 2008) at pg. 4 (“ADEQ will impose whatever controls are necessary on indirect discharges that occur upstream of or to tributaries of an OAW to maintain and protect existing water quality in a downstream OAW.”) Available at: http://www.azdeq.gov/environ/water/standards/download/draft_anti.pdf.

The mitigation program shall identify measures, as necessary, to ensure that any water used to mitigate a predicted reduction in stream flows, meets applicable Arizona surface water quality standards, including for Outstanding Arizona Waters, where applicable.

Within 30 days of ADEQ approval of the program, the applicant shall implement the approved mitigation program in accordance with the schedule set forth in the approved program. Should the results of required monitoring and/or revised hydrologic modeling (FEIS Mitigation Measures FS-BR-22, FS-BR-27, FS-GW-02, FS-SR-05) indicate that water quality in Davidson Canyon or Lower Cienega Creek is adversely affected by the activities certified herein, ADEQ may request that the COE suspend the CWA 404 Permit and require additional mitigation.

ADEQ found that if Rosemont adheres to the conditions and mitigation in the 401 Certification (*i.e.*, Specific Conditions 5.2), and also to CWA § 404 permit conditions, the U.S. Forest Service's Final Environmental Impact Statement's (FEIS) mitigation measures, and the State's 2010 Mining AZPDES Multi Sector General Permit's requirements, then the Rosemont Copper Project should not cause or contribute to exceedences of surface water quality standards nor cause water quality degradation in the downstream receiving waters including Davidson Canyon Wash and Cienega Creek.³ ADEQ based its finding on a consideration of the following 5 factors:

1. Change in ambient concentrations predicted at the appropriate critical flow conditions and the nature, persistence and potential effects of the parameter;
2. Changes in loadings and the nature, persistence and potential effects of the parameter;
3. Reduction in available assimilative capacity;
4. Degree of confidence in the various components of any modeling technique utilized; and
5. Potential for cumulative effects.

After a careful review of ADEQ's consideration of these five factors, EPA believes ADEQ's certification decision, and its finding that the current conditions and mitigation in the 401 certification (*i.e.*, Specific Conditions 5.2) will prevent water quality degradation in Davidson Wash and Cienega Creek, is not justified and the risk of water quality degradation remains high. EPA provides further consideration of the five factors, as discussed below:

Factors 1 and 2: Sediment is a critical and under-analyzed water quality parameter

As ADEQ correctly acknowledges in its Basis for Decision, changes to sediment transport in streams can adversely affect water quality by increasing total suspended sediment in surface water flows and altering the physical integrity of the system, thereby causing problems with scour or aggradation which have the potential to result in water quality degradation.⁴ ADEQ also recognizes that potential impacts on surface water quality due to the proposed fill activities could include changes in downstream sediment yield and therefore changes in geomorphology caused by the loss of waters of the U.S.⁵ Yet,

³ Basis for Decision at pg. 3.

⁴ Basis for Decision at pg. 8.

⁵ Basis for Decision at pp. 6 and 8.

ADEQ concludes that the proposed fill activities will not have a significant impact on the geomorphology of Barrel and Davidson Canyons.

To draw these conclusions of no significant impact, ADEQ relies on a very limited review of sediment transport effects. ADEQ uses the US Forest Service's (USFS) geomorphic assessment of Barrel Creek by Patterson and Annandale (2012), a 2-day survey using three variables: sediment availability, channel geometry, and water flow. Patterson and Annandale reason that since the Rosemont mine impacts 13% of the entire catchment area, there would not be significant impact to the fluvial geomorphology of the stream system.⁶ This conclusion presumes a simple and direct proportionality of the Rosemont mine's sediment contribution to other parts of the watershed, and considers no temporal variability. In reality, the impacts of mining activities on sediment transport are likely to change over time during the active mine life and after closure, with potentially significant consequences to channel stability and aquatic and riparian habitat. Thus, suspended and bedload transport analyses are necessary to evaluate the impacts to OAWs from mine-driven sediment changes.

Without the benefit of these additional analyses, EPA believes that ADEQ would be premature to conclude that there will be little change to lower Davidson Canyon's geomorphology (and water quality) as a result of the fill.

Factor 3: Reduction in available assimilative capacity

According to the FEIS, natural stormwater runoff that currently feeds the OAWs will be diminished up to 40% over the 24.5 – 30 year life of the mine.⁷ ADEQ acknowledges a post-closure reduction in runoff volume of 17.2%, and concludes that this reduction could result in a potential loss of assimilative capacity and therefore potential degradation of water quality and/or riparian areas.⁸

For 404 permitting purposes, the Corps of Engineers requested that Rosemont conduct an analysis of indirect impacts from stormwater diversion. Considering the attenuation of impacts as the contributing watershed becomes larger, Rosemont calculated a reduction in average annual volume of stormwater flow in the Davidson Canyon OAW of approximately 8%, resulting in indirect impacts to 2.2 acres of surface waters within the OAWs during Rosemont mine operation.⁹ EPA maintains Rosemont's analysis is flawed and the reduction in stormwater flow will adversely affect the entire wetted channel of the OAW. Rosemont did not calculate the indirect impacts to Lower Cienega Creek.

To address predicted reductions in runoff volume, the draft certification proposes that Rosemont develop and implement a surface water mitigation program designed to maintain aquatic and riparian resources at pre-project levels in Davidson Canyon and Lower Cienega Creek. The program shall include measures to offset predicted reductions in surface water flow (17.2% at post-closure), and a proposed schedule for implementation.¹⁰

⁶ Basis for Decision at pg. 8.

⁷ FEIS, Volume 2, Chapter 3, Table 66. Summary of effects

⁸ Basis for Decision at pg. 10.

⁹ Email from Brian Lindenlaub, Westlands Resources, to Elizabeth Goldmann, EPA dated January 15, 2014.

¹⁰ Basis for Decision at p. 11, Draft 401 Certification, Specific Condition 5.2.1.

EPA appreciates ADEQ's inclusion of this Special Condition. EPA, however, is concerned that there is inadequate detail or certainty about the prospective surface water mitigation program's ability to offset the reduction in available assimilative capacity. For instance, EPA believes that since the 401 certification's coverage extends over the entire active mine period, and since the natural stormwater runoff that currently feeds the OAWs will be diminished up to 40% over the 24.5 – 30 year life of the mine, the mitigation targets should be based on the 40% surface runoff reductions predicted during the life of the mine, as opposed to the 17.2% post-closure reductions estimated by ADEQ.

In addition, the potential strategies described in the draft 401 certification to offset loss (*e.g.*, purchasing, retiring, severing and transferring of water rights) depend on administrative actions that are not certain to occur. Without certainty of measurable water supply and delivery, and corresponding contingencies for failure to secure such water, EPA does not believe these activities may be reasonably relied upon to replace the loss of wet water in the OAWs and prevent their degradation. We therefore recommend that ADEQ have Rosemont submit its surface water mitigation program to ADEQ for approval *prior* to issuance of the 401 water quality certification to ensure that Rosemont has secured enough available "wet" water to maintain aquatic and riparian resources at pre-project levels in Davidson Canyon and Lower Cienega Creek.

Factor 4: Degree of Confidence in various components of any modeling technique utilized

In its Basis for Decision, ADEQ correctly notes the uncertainty of the USFS models in predicting impacts to downstream waters.¹¹ ADEQ concludes that based on modeling and observation (*e.g.*, models, Tetra Tech field observations, SRK Consulting review), Lower Davidson Canyon is not hydraulically connected to the regional aquifer that would be impacted by pit dewatering.¹² With regard to Lower Cienega Creek, ADEQ states the potential reduction in perennial stream flow would be driven by the reduction in contribution from both Davidson Canyon and Upper Cienega Creek, but this reduction in surface flows would be minimal.¹³

The EPA believes that the uncertainty associated with available modeling does not support the above conclusions. Uncertainty equates to greater risk, which argues for a more protective or precautionary application of standards.

As previously stated, changes in sediment loading and a reduction in assimilative capacity will adversely affect water quality in Davidson Canyon and Lower Cienega Creek OAWs. In addition, pit dewatering will adversely impact approximately 20 miles of the Upper Cienega Creek OAW. According to the FEIS, the best-fit models show that mine related groundwater drawdown will result in intermittent conditions in Upper Cienega Creek after 150 years. By 150 years after closure, the risk of dry or low-flow conditions occurring in Upper Cienega Creek would increase to 88-283 days per year. Another model estimate shows Cienega Creek becoming intermittent within 50-150 years.¹⁴ As a contributing

¹¹ Basis for Decision at p. 11.

¹² Basis for Decision at p. 11.

¹³ Basis for Decision at p. 13.

¹⁴ FEIS, Chapter 3, Table 108.

surface water source to Lower Cienega Creek, reductions in flow in Upper Cienega Creek will result in degradation of water quality in downstream OAW receiving waters.

Factor 5: Potential for Cumulative Impacts

EPA concludes from a careful read of the evaluation of cumulative impacts contained in the Basis for Decision that the scope and magnitude of impacts associated with the proposed Rosemont Copper Project, and the context in which these impacts will occur, have not been adequately presented.¹⁵ The Rosemont mine represents an assemblage of impacts that are additive to the existing trend of declining water availability due to climate change, drought, and other factors. Insufficient information is provided in the draft certification and the Basis for Decision to demonstrate that the implementation of a surface water mitigation program will replace flows being captured or truncated from the proposed mine, either as a stand-alone impact or in the context of cumulative impacts to water quality such as drought and climate change.

Monitoring for sediment and flow changes

In general, impacts should be avoided wherever practicable prior to contemplating ways they can be minimized or mitigated. In the case of water quality in OAWs, impacts must be avoided by definition. The draft certification proposes corrective action should impacts to geomorphology occur, but it is unclear whether corrective measures can be put in place to prevent the degradation of OAWs should scour or aggradation be detected, or whether these measures can be effective given the potential lag time between detection and implementation of potential remedies.¹⁶

The USFS will require the Rosemont mine to monitor sediment between the mine and SR83 to identify areas of scour or aggradation (FEIS mitigation measure FS-SR-05), and Rosemont has agreed to share these data with ADEQ. However, these measures are only applicable on USFS lands; the USFS has no authority, obligation, or expertise to determine or enforce compliance with other agencies' laws or regulations.¹⁷ In addition, based on the monitoring locations on USFS lands, it is questionable whether these monitoring measures and sites would capture changes to the beneficial uses associated with water quality standards at downstream OAWs.

EPA also believes Specific Condition 5.2.1 would benefit from a clearer description of the suspension procedures triggered if degradation is detected. Currently, the draft certification's proposed condition 5.2.1 states that ADEQ "may request" suspension of the CWA 404 permit if degradation is detected and require additional mitigation. However, the condition lacks specificity on implementation and timing of the suspension process and remedies, if any, should monitoring show degradation of an OAW. At minimum, adverse changes in water quality detected in OAWs should require immediate suspension of the 401 certification (and thus of the CWA 404 permit).

¹⁵ Basis for Decision at p. 13.

¹⁶ Basis for Decision at p. 8.

¹⁷ FEIS, Appendix B, Page B-3

Other Water Quality Concerns

A Corps Memorandum dated October 29, 2009 addresses water quality certification as follows, “The state’s certification of compliance with applicable effluent limitations and water quality standards will be considered conclusive with respect to water quality considerations, unless the Regional Administrator (RA) of the U.S. Environmental Protection Agency (U.S. EPA) notifies the district engineer of “other water quality aspects” that should be taken into consideration when making a decision on a permit application for an activity that results in a discharge of dredged or fill material into waters of the United States.”¹⁸

EPA first notified the District Engineer of water quality concerns in a letter dated February 13, 2012. If the state’s 401 water quality certification is not modified to adequately address the concerns regarding the protection of Davidson Canyon and Cienega Creek, EPA expects to request the District Engineer evaluate these particular water quality issues raised and documented by EPA both for purposes of the Corps public interest review at 33 CFR 320.4(d) and compliance with 40 CFR 230.10(b)(1) in the decision document for the §404 Clean Water Act permit action.

¹⁸ Memorandum for Major Subordinate Commands and District Commands Subject: Water Quality Certification dated October 29, 2009 at p. 1.

From: [Goldmann, Elizabeth](#)
To: [Blaine, Marjorie E SPL](#)
Cc: [Leidy, Robert](#)
Subject: Summary - Effects on the Cienega Creek Watershed from the proposed RM
Date: Tuesday, April 08, 2014 12:03:00 PM

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